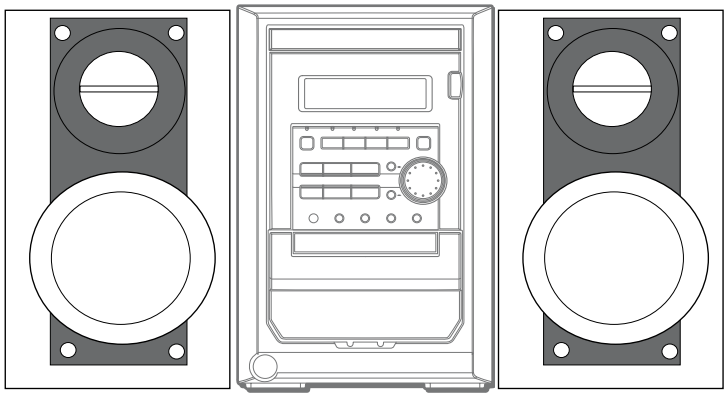
aiwa SERVICE

XR-M130 LH
XR-M150 U



SERVICE MANUAL

COMPACT DISC
STEREO SYSTEM

BASIC TAPE MECHANISM: 2ZM-1 R8NF
BASIC CD MECHANISM: 3ZG-3 E2NF

SYSTEM	REMOTE CONTROLLER
XR-M130	RC-AAT11
XR-M150	

aiwa

S/M Code No. 09-006-426-2R1

SPECIFICATIONS

<FM Tuner section>

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity(IHF)	13.2 dBf
Antenna terminals	75 ohms (unbalanced)

<AM Tuner section>

Tuning range	530 kHz to 1710 kHz (10 kHz step) 531 kHz to 1602 kHz (9 kHz step)
Usable sensitivity	350 uV/m
Antenna	Loop antenna

<Amplifier section>

Power output<LH>	Rated: 15 W +15 W (8 ohms, T.H.D. 10 %,1 kHz) Reference: 12 W + 12 W (8 ohms, T.H.D. 1 %,1 kHz)
Power output<U>	12 W + 12 W (50 Hz - 20 kHz, T.H.D. less than 1 %, 8 ohms) 15 W + 15 W (1 kHz, T.H.D. less than 10 %, 8 ohms)
Total harmonic distortion	0.07 % (7.5 W, 1 kHz, 8 ohms, DIN AUDIO)
Inputs	VIDEO/AUX: 0.4 V
Outputs	SUB WOOFER: 1.0 V SPEAKERS: accept speakers of 8 ohms or more PHONES (stereo minijack) : accepts headphones of 32 ohms or more

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	Normal tape: 50 Hz – 15000 Hz
Signal-to-noise ratio	50 dB
Recording system	AC bias
Heads	Recording/Playback head x 1 Erase head x 1

<Compact disc player section>

Laser	Semiconductor laser (λ =780 nm)
D-A converter	1 bit dual
Signal-to-noise ratio	75 dB (1 kHz, 0 dB)
Harmonic distortion	0.1 % (1 kHz, 0 dB)
Wow and flutter	Unmeasurable

<Speaker system>

Cabinet type	2 way, bass reflex
Speaker	Woofer: 120 mm (4 $^{3}/_{4}$ in) cone type Tweeter: 20 mm ($^{13}/_{16}$ in) ceramic type
Impedance	8 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	150 x 256 x 210 mm (6 x 10 $^{1}/_{8}$ x 8 $^{3}/_{8}$ in.)
Weight	2.0 kg (7 lbs 1 oz)

<General>

Power requirements	AC: 120 V/220 - 240 V AC switchable, 50/60Hz<LH> AC: 120 V, 60 Hz<U>
Power consumption	45 W<LH>, 40 W<U>
Dimensions (W x H x D)	168 x 256 x 255 mm (6 $^{5}/_{8}$ x 10 $^{1}/_{8}$ x 10 $^{1}/_{8}$ in)
Weight of main unit	3.5 kg (7 lbs 11 oz.)
Standby power consumption	If the power-economizing mode is on: 1.0 W If the power-economizing mode is off: 10 W

• Design and specifications are subject to change without notice.

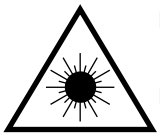
ACCESSORIES / PACKAGE LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-CL9-903-010		IB,LH (ESP)-C<LH>
1	8A-CL9-907-010		IB,U (ESF)-IN<U>
2	87-043-115-010		ANT,FEEDER FM
3	87-A90-030-010		ANT,LOOP AM-NC C
⚠ 4	87-A91-017-010		PLUG,CONVERSION JT-0476<LH>
5	8A-CLB-961-010		RC UNIT,RC-AAT11

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!
WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!
Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saataa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!
Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herin may result in hazardous radiation exposure.

ATTENTION
L'utillisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL
Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

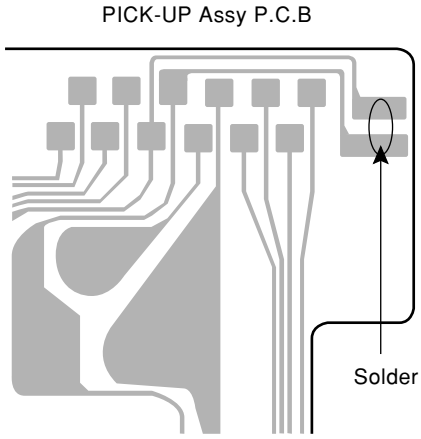
CLASS 1	LASER PRODUCT
KLASSE 1	LASER PRODUKT
LUOKAN 1	LASER LAITE
KLASS 1	LASER APPARAT

Precaution to replace Optical block

(KSS-213F)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in right figure.



ELECTRICAL MAIN PARTS LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-070-127-110		IC,LC72131D
	87-A20-913-010		IC,LA1837NL
	87-A20-446-010		C-IC,LA9241ML
	87-A20-459-010		C-IC,LC78622ED
	87-A20-157-010		IC,TA2092N
	87-001-536-010		IC,NJM78M05FA
	87-001-982-010		IC,TA7291S
	8A-CL9-681-010		C-IC,M38B57MCH-P239FP
	87-017-889-010		IC,NJM4558LD
	87-A20-914-010		IC,SPS-442-1-F
	87-A21-520-040		C-IC,M61509FP
TRANSISTOR			
	87-A30-072-080		RT1P144C
	89-327-143-080		2SC2714
	87-026-463-080		TR,2SA933SRS
	87-026-297-080		C-TR,DTA144TK
	87-026-239-080		C-TR,DTC114TK
	89-109-521-080		TR,2SA952K
	89-318-155-080		TR,2SC1815GR
	89-213-702-010		TR,2SB1370E
	87-026-610-080		TR,KTC3198GR
	89-333-317-080		TR,2SC3331T
	87-A30-196-080		TR,2SC4115SRS
	89-113-187-880		TR,2SA1318(T/U)
	87-A30-198-080		TR,KTC3199GR
	87-A30-197-080		TR,KTA1267GR
	87-026-219-080		TR,DTA144ES
	87-A30-127-010		TR,2SD2478
	87-A30-126-010		TR,2SB1616
	89-406-555-080		TR,2SD655E
	87-026-609-080		TR,KTA1266GR
	87-026-245-080		TR,DTC114ES
	89-112-965-080		TR,2SA1296GR
	89-327-125-080		C-TR,2SC2712GR
	87-A30-090-080		FET,2SK2541
	89-111-624-080		C-TR,2SA1162Y
	87-A30-076-080		C-TR,2SC3052F
	87-026-235-080		C-TR,DTC114EK
	87-A30-074-080		C-TR,RT1P 141C
	87-A30-087-080		C-FET,2SK2158
	87-026-502-080		TR,DTC144TS
	87-026-295-080		C-TR,DTC144TK
DIODE			
	87-A40-454-080		DIODE,1N5393 GW
	87-020-465-080		DIODE,1SS133
	87-A40-553-080		DIODE,1N4003 LES
	87-A40-781-080		ZENER,UZ36BSA
	87-A40-764-080		ZENER,UZ10BSC
	87-001-731-080		ZENER,HZS6C2L
	87-020-027-080		C-DIODE,1SS184
	87-A40-739-080		ZENER,UZ2.7BSA
	87-A40-270-080		C-DIODE,MC2838
MAIN C.B			
C101	87-016-495-000		CAP,E 3300-25 M SMG
C102	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C104	87-A10-011-090		CAP,E 2200-25 SMG
C105	87-012-140-080		C-CAP,S 470P-50 J CH
C106	87-010-408-080		CAP,E 47-50 M 11L SME
C107	87-010-384-080		CAP,E 100-25 M 11L SME
C108	87-010-381-080		CAP,E 330-16 M SME
C109	87-010-260-080		CAP,E 47-25 M 11L SME
C110	87-010-260-080		CAP,E 47-25 M 11L SME
C111	87-010-247-080		CAP,E 100-50 M SME
C112	87-010-263-080		CAP,E 100-10 M 11L SME
C113	87-010-403-080		CAP,E 3.3-50 M 11L SME
C114	87-010-374-080		CAP,E 47-10 M 11L SME
C115	87-A11-007-080		CAP,M 0.047-50 J DE
C116	87-A11-007-080		CAP,M 0.047-50 J DE
C122	87-010-260-080		CAP,E 47-25 M 11L SME
C123	87-010-260-080		CAP,E 47-25 M 11L SME
C131	87-012-368-080		C-CAP,S 0.1-50 Z F
C132	87-012-368-080		C-CAP,S 0.1-50 Z F
C151	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C200	87-010-197-080		C-CAP,S 0.01-25 K B C2012<LH>
C201	87-010-197-080		C-CAP,S 0.01-25 K B C2012<LH>
C207	87-010-546-080		CAP,E 0.33-50 M 11L SME
C208	87-010-546-080		CAP,E 0.33-50 M 11L SME
C209	87-010-186-080		C-CAP,S 4700P-50 K B C2012
C210	87-010-186-080		C-CAP,S 4700P-50 K B C2012
C211	87-010-403-080		CAP,E 3.3-50 M 11L SME
C212	87-010-403-080		CAP,E 3.3-50 M 11L SME
C213	87-010-260-080		CAP,E 47-25 M 11L SME
C214	87-010-260-080		CAP,E 47-25 M 11L SME
C217	87-010-993-080		C-CAP,S 0.056-25 K B MK212
C218	87-010-993-080		C-CAP,S 0.056-25 K B MK212
C219	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C220	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C227	87-010-260-080		CAP,E 47-25 M 11L SME
C229	87-012-156-080		C-CAP,S 220P-50 J CH GRM
C230	87-012-156-080		C-CAP,S 220P-50 J CH GRM
C261	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C273	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C303	87-010-177-080		C-CAP,S 820P-50 J SL C2012
C304	87-010-177-080		C-CAP,S 820P-50 J SL C2012
C307	87-010-263-080		CAP,E 100-10 M 11L SME
C308	87-010-263-080		CAP,E 100-10 M 11L SME
C311	87-010-195-080		C-CAP,S 0.068-25 Z F C2012
C312	87-010-195-080		C-CAP,S 0.068-25 Z F C2012
C313	87-010-184-080		C-CAP,S 3300P-50 K B C2012
C314	87-010-184-080		C-CAP,S 3300P-50 K B C2012
C315	87-010-374-080		CAP,E 47-10 M 11L SME
C317	87-010-546-080		CAP,E 0.33-50 M 11L SME
C318	87-010-546-080		CAP,E 0.33-50 M 11L SME
C320	87-010-401-080		CAP,E 1-50 M 11L SME
C321	87-010-405-080		CAP,E 10-50 M 11L SME
C340	87-012-156-080		C-CAP,S 220P-50 J CH GRM
C361	87-010-374-080		CAP,E 47-10 M 11L SME
C362	87-010-401-080		CAP,E 1-50 M 11L SME
C401	87-010-401-080		CAP,E 1-50 M 11L SME
C402	87-010-401-080		CAP,E 1-50 M 11L SME
C403	87-010-321-080		C-CAP,S 82P-50 J CH
C404	87-010-321-080		C-CAP,S 82P-50 J CH
C405	87-010-188-080		C-CAP,S 6800P-50 K B C2012
C406	87-010-188-080		C-CAP,S 6800P-50 K B C2012
C407	87-010-426-080		C-CAP,S 0.012-25 K B
C408	87-010-426-080		C-CAP,S 0.012-25 K B
C451	87-010-198-080		C-CAP,S 0.022-25 K B C2012
C452	87-010-382-080		CAP,E 22-25 M 11L SME
C453	87-010-183-080		C-CAP,S 2700P-50 K B GRM
C454	87-010-183-080		C-CAP,S 2700P-50 K B GRM
C455	87-010-183-080		C-CAP,S 2700P-50 K B GRM
C456	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C457	87-A10-772-080		CAP,M 5600P-50 J
C458	87-010-178-080		C-CAP,S 1000P-50 K B C2012
C459	87-010-175-080		C-CAP,S 560P-50 J SL
C461	87-012-158-080		C-CAP,S 390P-50 J CH GRM
C462	87-012-158-080		C-CAP,S 390P-50 J CH GRM
C601	87-010-180-080		C-CAP,S 1500P-50 K B C2012
C602	87-010-180-080		C-CAP,S 1500P-50 K B C2012
C603	87-010-322-080		C-CAP,S 100P-50 J CH GRM
C609	87-012-287-080		C-CAP,U 0.015-25 Z F
C610	87-010-213-080		C-CAP,S 0.015-25 K B GRM
C611	87-010-545-080		CAP,E 0.22-50 M 11L SME

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C612	87-010-545-080		CAP,E 0.22-50 M 11L SME
C613	87-010-545-080		CAP,E 0.22-50 M 11L SME
C614	87-010-545-080		CAP,E 0.22-50 M 11L SME
C615	87-010-154-080		C-CAP,S 10P-50 D CH GRM
C616	87-010-408-080		CAP,E 47-50 M 11L SME
C617	87-010-408-080		CAP,E 47-50 M 11L SME
C619	87-010-401-080		CAP,E 1-50 M 11L SME
C620	87-010-401-080		CAP,E 1-50 M 11L SME
C627	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C628	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C635	87-015-785-080		C-CAP, 0.1-25 Z F C3216
C663	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C697	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C698	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C901	87-A10-207-080		CAP,TC U 0.01-50 K B UP050
CN202	87-099-719-010		CONN,30P H BLK TYK-B(X)
CON351	88-CL4-701-010		CONN ASSY,7P RPEH
CN351	87-A60-624-010		CONN,7P V 2MM JMT
CN702	87-099-570-010		CONN,13P V TUC-P13P-B1
J231	87-A60-420-010		JACK,3.5 ST (MSC)
J241	87-A60-217-010		TERMINAL,SPKR 4P
J601	87-A60-881-010		JACK,PIN 2P MSP 242V05 PBSN
J603	87-099-801-010		JACK,PIN 1P BLK W/O SW
L096	87-003-097-080		COIL,1.0UH K LAL02<U>
L201	87-005-366-010		COIL,1UH K
L202	87-005-366-010		COIL,1UH K
L451	87-007-342-010		COIL,OSC 85KHZ BIAS
WH101	8A-CL9-671-010		F-CABLE,9P 2.5
PN101	87-A90-510-010		HLDR,WIRE 2.5-9P
⚠ PR201	87-A90-070-080		FUSE,3.5A 125V 251<U>
⚠ PR201	87-A90-473-080		PROTECTOR,3.5A 491SERIES 60V<LH>
⚠ PR202	87-A90-070-080		FUSE,3.5A 125V 251<U>
⚠ PR202	87-A90-473-080		PROTECTOR,3.5A 491SERIES 60V<LH>
R223	87-A00-258-080		RES,M/F 0.22-1W J
R224	87-A00-258-080		RES,M/F 0.22-1W J
R249	87-A00-258-080		RES,M/F 0.22-1W J
R250	87-A00-258-080		RES,M/F 0.22-1W J

FRONT C.B

C301	87-010-197-080		C-CAP,S 0.01-25 K B C2012<U>
C302	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C304	87-010-405-040		CAP,E 10-50 M 11L SME
C305	87-A10-797-040		CAP,E 47-35 M 5L SRM
C307	87-010-421-040		CAP,E 4.7-50 M 5L SRE
C308	87-010-421-040		CAP,E 4.7-50 M 5L SRE
C309	87-010-787-080		C-CAP,U 0.022-25 K B
C313	87-010-112-040		CAP,E 100-16 M 11L SME
C314	87-A10-189-040		CAP,E 220-10 M 5L
C315	87-010-198-080		C-CAP,S 0.022-25 K B C2012
C316	87-012-286-080		C-CAP,U 0.01-25 K B
C317	87-010-787-080		C-CAP,U 0.022-25 K B
C318	87-010-320-080		C-CAP,S 68P-50 J CH GRM
C319	87-010-320-080		C-CAP,S 68P-50 J CH GRM
C320	87-010-320-080		C-CAP,S 68P-50 J CH GRM
C321	87-010-320-080		C-CAP,S 68P-50 J CH GRM
C322	87-010-320-080		C-CAP,S 68P-50 J CH GRM
C323	87-010-320-080		C-CAP,S 68P-50 J CH GRM
C324	87-010-320-080		C-CAP,S 68P-50 J CH GRM
C325	87-010-320-080		C-CAP,S 68P-50 J CH GRM
C326	87-010-320-080		C-CAP,S 68P-50 J CH GRM
C327	87-010-320-080		C-CAP,S 68P-50 J CH GRM
C328	87-010-320-080		C-CAP,S 68P-50 J CH GRM
C329	87-010-198-080		C-CAP,S 0.022-25 K B C2012
C330	87-010-318-080		C-CAP,S 47P-50 J CH GRM
C331	87-010-312-080		C-CAP,S 15P-50 J CH GRM
C333	87-010-401-040		CAP,E 1-50 M 11L SME
C335	87-010-316-080		C-CAP,S 33P-50 J CH GRM
C338	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C339	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C340	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C341	87-010-263-040		CAP,E 100-10 M 11L SME
C352	87-010-194-080		C-CAP,S 0.047-25 Z F
C395	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C396	87-012-154-080		C-CAP,S 150P-50 J CH GRM<LH>
C397	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C399	87-010-314-080		C-CAP,S 22P-50 J CH GRM
C400	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C420	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C421	87-010-318-080		C-CAP,S 47P-50 J CH GRM
C422	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C423	87-010-403-040		CAP,E 3.3-50 M 11L SME
CN004	87-099-032-010		CONN,15P H BLK 6216
CN301	87-099-720-010		CONN,30P BLK TYK-B(P)
CN302	87-CL4-704-010		CONN ASSY,9P DECK
FL301	8A-CL9-682-010		FL,11-BT-179GNK
JW405	87-A90-896-080		F-BEAD, 035600STY7
LED301	87-A40-229-040		LED,SLR-342VR TB7 RED
LED302	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED303	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED304	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED305	87-A40-619-040		LED,SLR-56PT-T31-W GRN
⚠ PR301	87-A91-153-080		FUSE,630MA 125V 251<U>
⚠ PR301	87-026-689-080		PROTECTOR,1A 491SERIES 60V<LH>
S301	87-A90-095-080		SW,TACT EVQ11G04M
S302	87-A90-095-080		SW,TACT EVQ11G04M
S303	87-A90-095-080		SW,TACT EVQ11G04M
S304	87-A90-095-080		SW,TACT EVQ11G04M
S305	87-A90-095-080		SW,TACT EVQ11G04M
S306	87-A90-095-080		SW,TACT EVQ11G04M
S307	87-A90-095-080		SW,TACT EVQ11G04M
S308	87-A90-095-080		SW,TACT EVQ11G04M
S309	87-A90-095-080		SW,TACT EVQ11G04M
S310	87-A90-095-080		SW,TACT EVQ11G04M
S311	87-A90-095-080		SW,TACT EVQ11G04M
S312	87-A90-095-080		SW,TACT EVQ11G04M
S313	87-A90-095-080		SW,TACT EVQ11G04M
S314	87-A90-095-080		SW,TACT EVQ11G04M
S315	87-A90-095-080		SW,TACT EVQ11G04M
S316	87-A90-095-080		SW,TACT EVQ11G04M
S317	87-A90-095-080		SW,TACT EVQ11G04M
S318	87-A90-095-080		SW,TACT EVQ11G04M
S320	87-A90-095-080		SW,TACT EVQ11G04M
S351	87-A91-690-010		SW,RTRY JOG RE0121PVB25FINB
X301	87-030-375-080		VIB,CER 4.194MHZ CSA MG200

CD C.B

C001	87-010-403-080		CAP,E 3.3-50 M 11L SME
C002	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C003	87-010-263-080		CAP,E 100-10 M 11L SME
C004	87-010-248-080		CAP,E 220-10 M 11L SME
C005	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C006	87-010-374-080		CAP,E 47-10 M 11L SME
C007	87-012-349-080		C-CAP,S 1000P-50 J CH GRM
C008	87-010-198-080		C-CAP,S 0.022-25 K B C2012
C009	87-010-263-080		CAP,E 100-10 M 11L SME
C010	87-010-263-080		CAP,E 100-10 M 11L SME
C012	87-010-401-080		CAP,E 1-50 M 11L SME
C013	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C014	87-010-405-080		CAP,E 10-50 M 11L SME
C016	87-010-545-080		CAP,E 0.22-50 M 11L SME
C017	87-012-349-080		C-CAP,S 1000P-50 J CH GRM
C018	87-010-213-080		C-CAP,S 0.015-25 K B GRM
C020	87-010-193-080		C-CAP,S 0.033-25 Z F C2012
C021	87-A10-306-080		CAP,M 0.082-50 J
C023	87-010-992-080		C-CAP,S 0.047-25 K B MK212
C029	87-010-186-080		C-CAP,S 4700P-50 K B C2012
C030	87-012-156-080		C-CAP,S 220P-50 J CH GRM
C031	87-010-545-080		CAP,E 0.22-50 M 11L SME

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C032	87-010-374-080		CAP,E 47-10 M 11L SME
C033	87-010-401-080		CAP,E 1-50 M 11L SME
C034	87-010-182-080		C-CAP,S 2200P-50 K B C2012
C035	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C036	87-010-374-080		CAP,E 47-10 M 11L SME
C037	87-010-405-080		CAP,E 10-50 M 11L SME
C038	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C039	87-012-349-080		C-CAP,S 1000P-50 J CH GRM
C040	87-010-148-080		C-CAP,S 4P-50 C CH GRM
C041	87-A10-294-080		CAP,M 8200P-50 J
C042	87-010-313-080		C-CAP,S 18P-50 J CH GRM
C045	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C046	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C047	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C048	87-010-315-080		C-CAP,S 27P-50 J CH GRM
C050	87-012-140-080		C-CAP,S 470P-50 J CH
C051	87-010-994-080		C-CAP,S 680P-50 J CH
C057	87-010-316-080		C-CAP,S 33P-50 J CH GRM
C058	87-010-316-080		C-CAP,S 33P-50 J CH GRM
C059	87-010-263-080		CAP,E 100-10 M 11L SME
C060	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C061	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C062	87-010-370-080		CAP,E 330-6.3 M SME
C065	87-010-404-080		CAP,E 4.7-50 M 11L SME
C066	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C067	87-010-263-080		CAP,E 100-10 M 11L SME
C075	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C076	87-A10-102-080		CAP,E 1000-10 REA
C077	87-010-263-080		CAP,E 100-10 M 11L SME
C078	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C079	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C080	87-010-112-080		CAP,E 100-16 M 11L SME
C081	87-010-405-080		CAP,E 10-50 M 11L SME
C082	87-010-405-080		CAP,E 10-50 M 11L SME
C083	87-010-181-080		C-CAP,S 1800P-50 K B GRM
C084	87-010-181-080		C-CAP,S 1800P-50 K B GRM
C090	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C091	87-010-404-080		CAP,E 4.7-50 M 11L SME
C092	87-010-387-080		CAP,E 470-25 M SME
C093	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C094	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C095	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C096	87-010-221-080		CAP,E 470-10 M SME
C097	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C098	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C104	87-010-322-080		C-CAP,S 100P-50 J CH GRM
C105	87-010-322-080		C-CAP,S 100P-50 J CH GRM
C110	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C162	87-010-178-080		C-CAP,S 1000P-50 K B C2012
C902	87-018-119-080		CAP,TC U 100P-50 K B UP050
C903	87-018-119-080		CAP,TC U 100P-50 K B UP050
CN001	87-A60-424-010		CONN,16P V TOC-B
FFC001	88-CL4-704-010		FF-CABLE, 16P 1.0
CN003	87-A60-131-010		CONN,6P V FE
FFC003	88-906-131-110		FF-CABLE,6P 1.25
CN004	87-099-032-010		CONN,15P H BLK 6216
FFC004	88-915-231-110		FF-CABLE, 15P 1.25 230MM
CN006	87-A60-153-010		CONN,5P H FE
FFC006	88-905-231-110		FF-CABLE, 5P 1.25 230MM
JR161	83-XM1-617-080		C-COIL,BK2125HM601
L001	87-003-102-080		COIL,10UH J LAL02
⚠ R070	87-029-124-090		RES,FUSE 2.2-1/4W J
⚠ R073	87-029-361-090		RES,FUSE 3.3-1/2W J
X001	87-A70-046-010		VIB,XTAL 16.934MHZ

PT C.B

C101	87-010-387-080		CAP,E 470-25 M SME
CN101	87-A61-110-010		CONN,9P V TID-A
⚠ F101	87-035-454-010		FUSE,1.6A 250V T 218<LH>
⚠ FC101	87-033-213-080		FUSE CLAMP,PFC5000<LH>
⚠ FC102	87-033-213-080		FUSE CLAMP,PFC5000<LH>
⚠ PR101	87-026-690-080		FUSE,5A 125V 251<U>
⚠ PR101	87-026-681-080		PROTECTOR,5A 491SERIES 60V<LH>
⚠ PR102	87-026-690-080		FUSE,5A 125V 251<U>
⚠ PR102	87-026-681-080		PROTECTOR,5A 491SERIES 60V<LH>
⚠ PT101	8A-CL9-644-010		PT,LH<LH>
⚠ PT101	8A-CL9-642-010		PT,U<U>
⚠ PT102	8A-NF8-673-010		PT,SUB ANF-8 (H)KAMI<LH>
⚠ PT102	8A-NF8-661-010		PT,SUB ANF-8 (U)<U>
⚠ RY102	87-A91-281-010		RELAY,AC DC12V OSA-SS-212DM5<LH>
⚠ RY102	87-A90-976-010		RELAY,AC12V SDT-S-112LMR<U>
⚠ SW101	87-A90-234-010		SW,SL 1-2-2 SWS2201<LH>
⚠ T101	87-A60-317-010		TERMINAL, 1P MSC
⚠ T102	87-A60-317-010		TERMINAL, 1P MSC

TUNER C.B

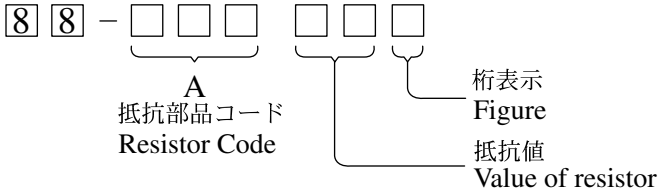
C701	87-010-381-080		CAP, ELECT 330-16V
C702	87-010-404-080		CAP, ELECT 4.7-50V
C703	87-012-286-080		CAP, U 0.01-25
C704	87-012-286-080		CAP, U 0.01-25
C705	87-A10-592-080		C-CAP,S 0.015-50 J B
C706	87-A10-592-080		C-CAP,S 0.015-50 J B
C709	87-012-195-080		C-CAP,U 100P-50CH
C711	87-010-260-080		CAP, ELECT 47-25V
C712	87-010-831-080		C-CAP,U,0.1-16F
C714	87-012-286-080		CAP, U 0.01-25
C717	87-012-286-080		CAP, U 0.01-25
C718	87-012-179-080		C-CAP,U 20P-50 CH
C719	87-012-286-080		CAP, U 0.01-25
C720	87-012-195-080		C-CAP,U 100P-50CH
C721	87-012-176-080		CAP 15P
C722	87-012-176-080		CAP 15P
C723	87-012-274-080		CHIP CAP,U 1000P-50B
C725	87-012-274-080		CHIP CAP,U 1000P-50B
C727	87-010-196-080		CHIP CAPACITOR,0.1-25
C728	87-010-248-080		CAP, ELECT 220-10V
C729	87-012-274-080		CHIP CAP,U 1000P-50B
C731	87-012-286-080		CAP, U 0.01-25
C733	87-010-987-080		C-CAP,S 1500P-50 CH
C734	87-010-987-080		C-CAP,S 1500P-50 CH
C735	87-010-987-080		C-CAP,S 1500P-50 CH
C736	87-010-987-080		C-CAP,S 1500P-50 CH
C737	87-A10-592-080		C-CAP,S 0.015-50 J B
C738	87-A10-592-080		C-CAP,S 0.015-50 J B
C751	87-012-365-080		C-CAP,S 0.027-25VBK
C752	87-012-365-080		C-CAP,S 0.027-25VBK
C756	87-012-286-080		CAP, U 0.01-25
C757	87-012-188-080		C-CAP,U 47P-50 CH
C758	87-012-167-080		C-CAP,U 5P-50 CH
C763	87-010-829-080		CAP, U 0.047-16
C764	87-012-337-080		C-CAP,U 56P-50 CH
C765	87-012-286-080		CAP, U 0.01-25
C768	87-012-286-080		CAP, U 0.01-25
C769	87-010-260-080		CAP, ELECT 47-25V
C770	87-010-829-080		CAP, U 0.047-16
C771	87-010-383-080		CAP, ELECT 33-25V
C772	87-010-829-080		CAP, U 0.047-16
C773	87-010-196-080		CHIP CAPACITOR,0.1-25
C774	87-010-263-080		CAP, ELECT 100-10V
C775	87-010-404-080		CAP, ELECT 4.7-50V
C776	87-012-286-080		CAP, U 0.01-25
C777	87-010-400-080		CAP, ELECT 0.47-50V
C778	87-010-401-080		CAP, ELECT 1-50V
C779	87-010-401-080		CAP, ELECT 1-50V
C780	87-010-196-080		CHIP CAPACITOR,0.1-25
C781	87-010-405-080		CAP, ELECT 10-50V
C782	87-010-405-080		CAP, ELECT 10-50V
C783	87-012-286-080		CAP, U 0.01-25

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C784	87-012-286-080		CAP, U 0.01-25
C785	87-010-401-080		CAP, ELECT 1-50V
C786	87-010-401-080		CAP, ELECT 1-50V
C789	87-012-275-080		C-CAP,U 1200P-50 B
C790	87-012-275-080		C-CAP,U 1200P-50 B
C791	87-010-405-080		CAP, ELECT 10-50V
C793	87-012-273-080		C-CAP,U 820P-50 B
C794	87-010-406-080		CAP, ELECT 22-50
C795	87-010-596-080		CAP, S 0.047-16
C796	87-010-403-080		CAP, ELECT 3.3-50V
C799	87-010-829-080		CAP, U 0.047-16
C812	87-012-286-080		CAP, U 0.01-25
C820	87-010-260-080		CAP, ELECT 47-25V
C821	87-012-286-080		CAP, U 0.01-25
C822	87-012-286-080		CAP, U 0.01-25
C823	87-012-286-080		CAP, U 0.01-25
C828	87-010-196-080		CHIP CAPACITOR,0.1-25
C829	87-010-196-080		CHIP CAPACITOR,0.1-25
C959	87-010-196-080		CHIP CAPACITOR,0.1-25
C960	87-010-196-080		CHIP CAPACITOR,0.1-25
C961	87-012-170-080		C-CAP,U 8P-50 CH
C963	87-010-196-080		CHIP CAPACITOR,0.1-25
CF801	87-008-261-010		FILTER, SFE10.7MA5-A
CF802	87-008-261-010		FILTER, SFE10.7MA5-A
CN701	87-A60-700-010		CONN,13P H GRY TUC-P13X-C1
FFE801	A8-8ZA-190-030		8ZA-1 FEUNM
J801	87-A60-702-010		TERMINAL,ANT 4P CJ-9036
L771	87-A50-266-010		COIL,FM DET-2N(TOK)
L772	87-A90-733-010		FLTR,PCFAZH-450 (TOK)
L981	87-NF4-650-010		COIL,AM PACK 4N(TOK)
X721	87-A70-061-010		VIB,XTAL 4.500MHZ CSA-309PT C.B

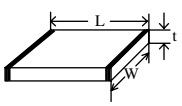
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
RELAY C.B			
CN301	88-CL4-701-010	0E	CONN ASSY,7P RPEH
DECK C.B			
CON1	87-009-352-010	--	CONN,9P PH H
SFR1	87-024-581-010	0E	SFR,3.3K H KVSF637A
SOL2	82-ZM1-618-410	1B	SOL ASSY,27
SW2	87-036-110-010	1A	SW,MICRO SPPB62
SW3	87-036-110-010	1A	SW,MICRO SPPB62
SW5	87-036-110-010	1A	SW,MICRO SPPB62
SW6	87-A90-248-010	0E	SW,MICRO ESE11SH2CXQ
W1	82-ZM1-625-010	--	RBN-CORD,4P-5S
CD LOAD C.B			
CON6	87-099-210-010	--	CONN,5P 6216H
FC6	88-905-231-110	0E	FF-CABLE,5P 1.25 23
M1	87-045-305-010	1E	MOTOR,RF-500TB DC-5V(2MA)
SW1	87-036-110-010	1A	PUSH SWITCH
SW2	87-036-110-010	1A	PUSH SWITCH
CD DRIVE C.B			
CON3	87-A60-086-010	--	CONN,6P H 6216
FC3	88-906-261-110	0E	FF-CABLE,6P 1.25 26
M20	87-045-358-010	--	MOT,RF-310TA 43
M21	87-045-356-010	--	MOT,RF-310TA 30
SW1	87-A90-042-010	--	SW,LEAF MSW-17310MVP0

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

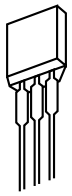
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



チップ抵抗
Chip resistor

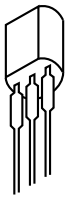
容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm) 外形／Form	L	W	t	抵抗コード : A Resistor Code : A
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION



E C B

2SA933
2SC4115
DTA144ES
DTC114ES
DTC144TS
KTA1267
KTC3199



E C B

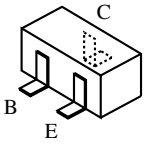
2SA1296
2SC1815
KTA1266
KTC3198

E C B

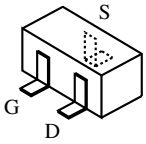
2SA952
2SD655

E C B

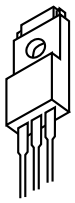
2SA1318
2SC3331



2SA1162Y DTC114EK
2SC2712GR DTC114TK
2SC2714 RT1P141C
2SC3052F RT1P144C
DTC144TK
DTA144TK

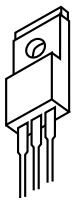


2SK2158



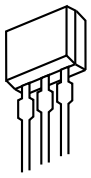
B C E

2SB1616
2SD2478



B C E

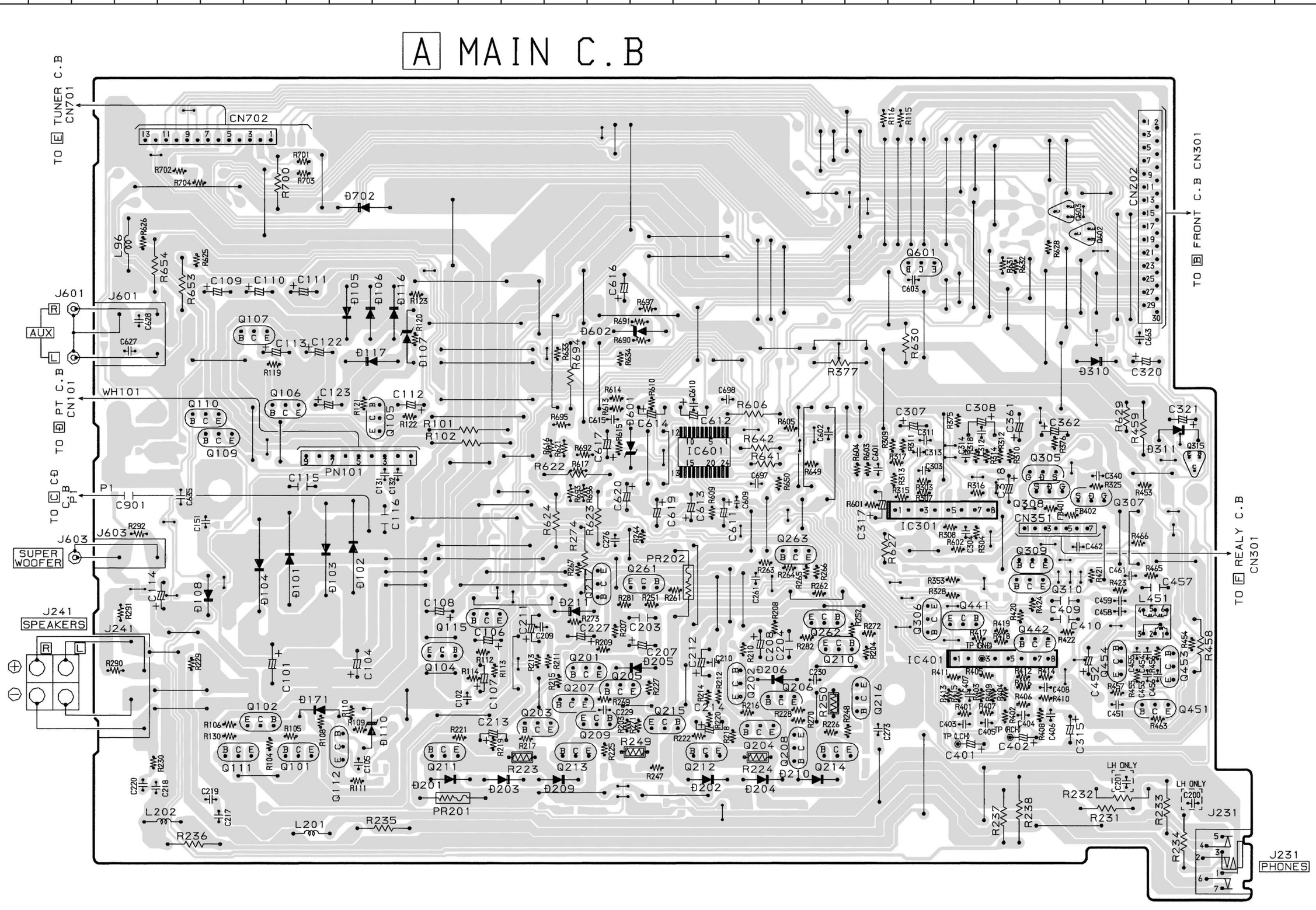
2SB1370



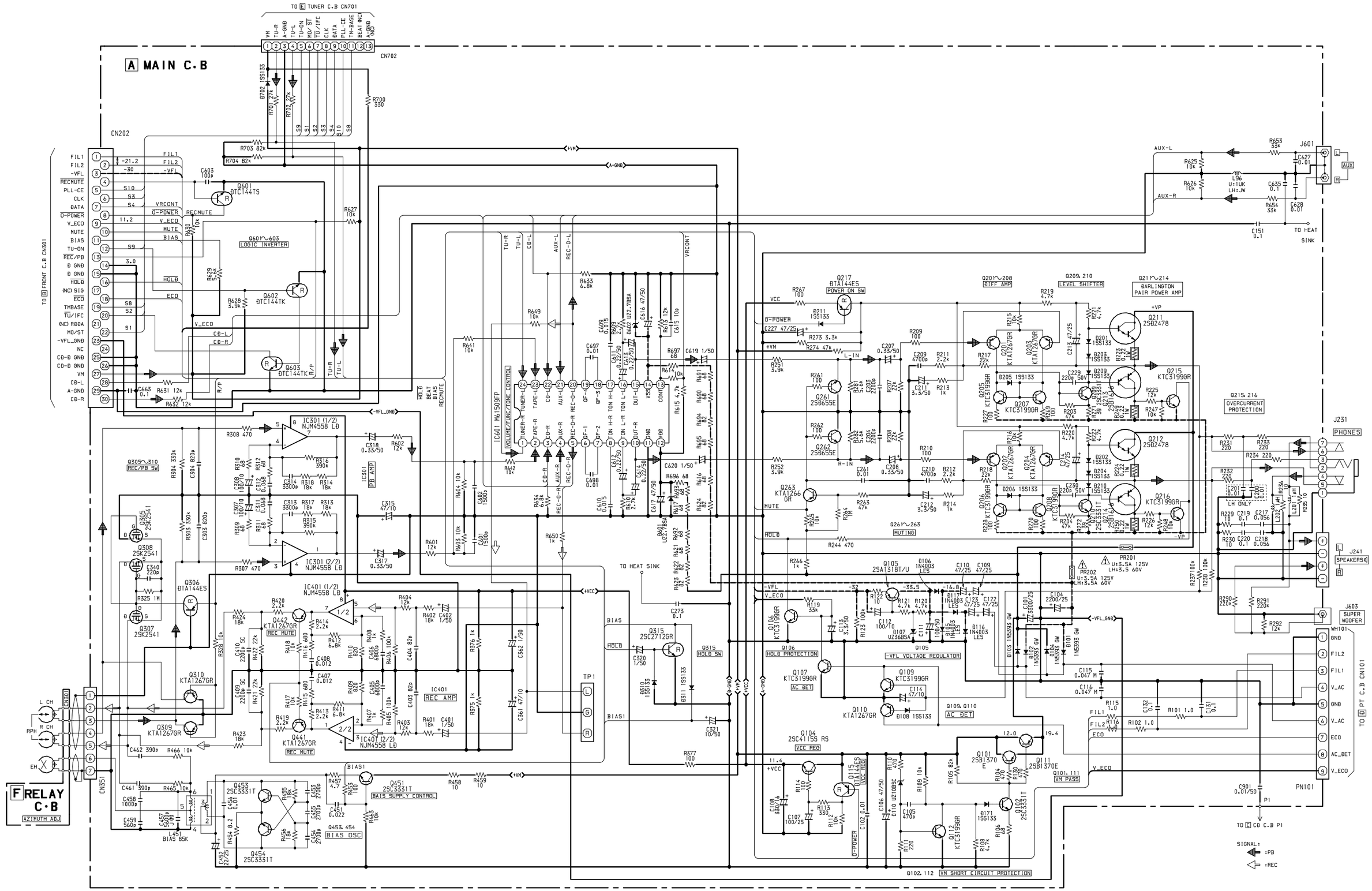
S D G

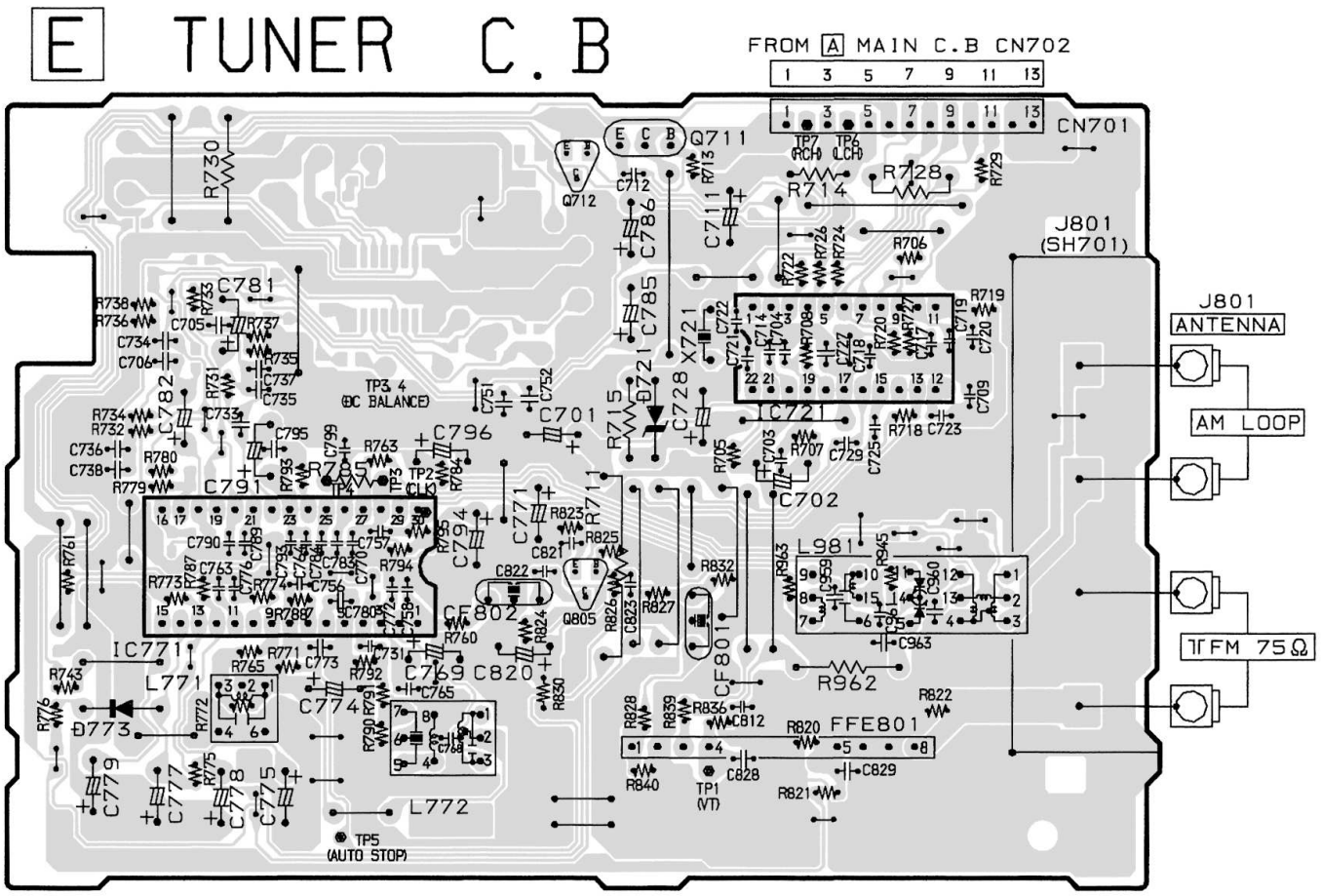
2SK2541

A MAIN C.B

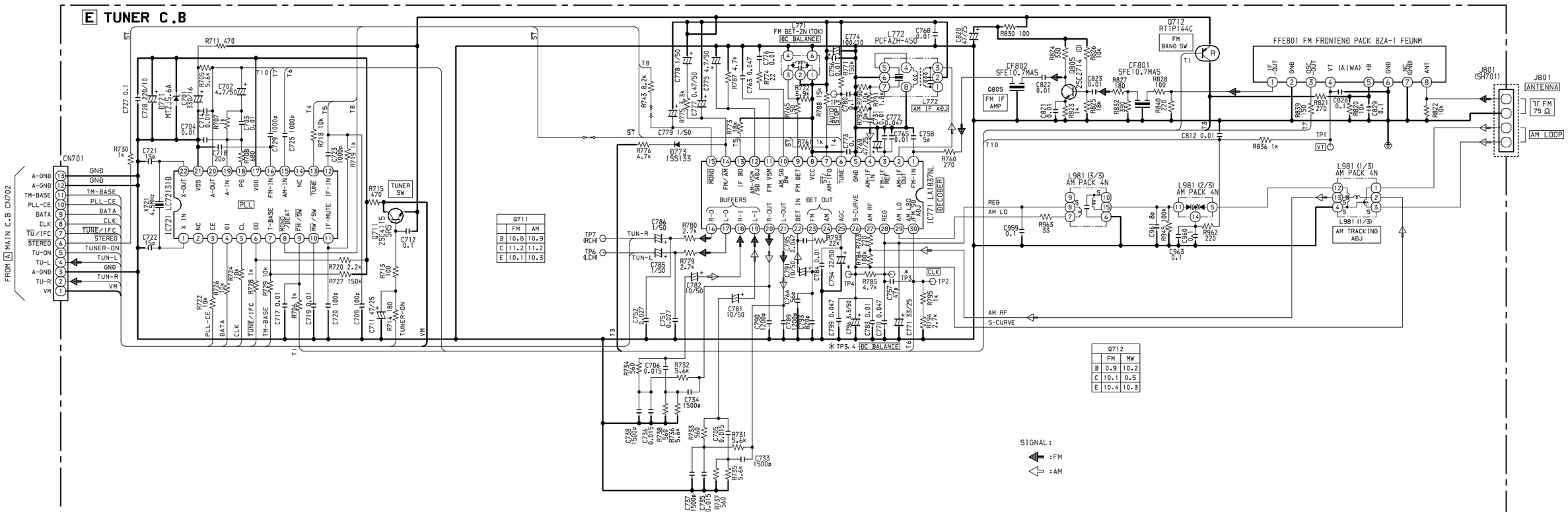

TO E TUNER C.B CN701
CN702
TO D PT C.B CN101
WH101
TO C CD P.B P1
C901
J603
SUPER WOOFER
J241
SPEAKERS
J601
AUX
PN101
PR201
PR202
IC601
IC301
IC401
Q601
Q305
Q306
Q307
Q308
Q309
Q310
CN202
TO B FRONT C.B CN301
CN351
TO F REALY C.B CN301
J231
PHONES
LH ONLY
TP (GND)
TP (LCH)
TP (RCH)

SCHEMATIC DIAGRAM - 1 (MAIN / RELAY)

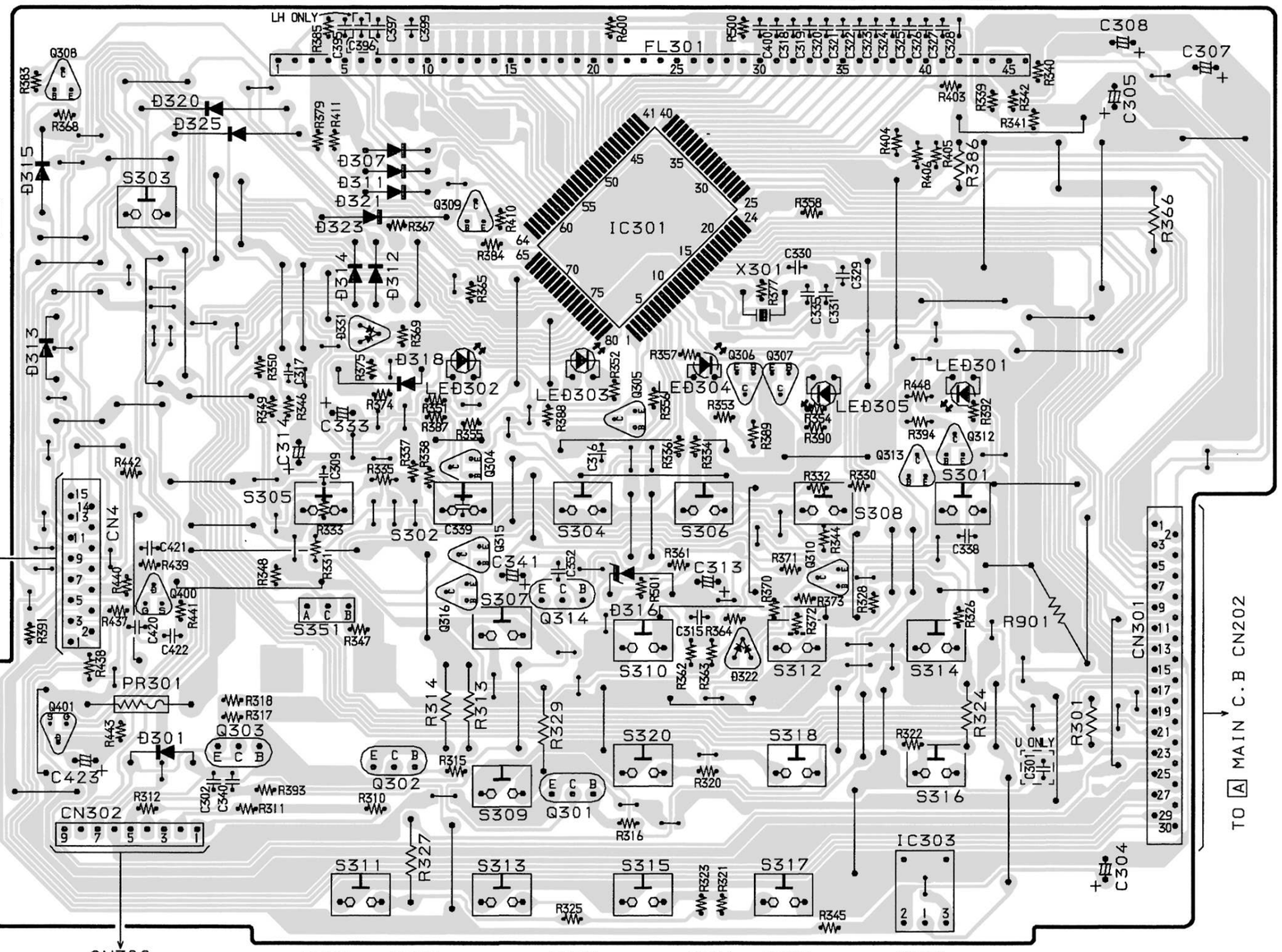



E TUNER C.B
FROM A MAIN C.B CN702
CN701
J801 (SH701)
J801 ANTENNA
AM LOOP
FM 75Ω
IC721
IC771
L771
L772
L981
FE801
CF801
CF802
X721
Q711
Q712
Q805
D773
TP1 (VT)
TP5 (AUTO STOP)
TP7 (RCH)
TP6 (LCH)
TP3 4 (DC BALANCE)

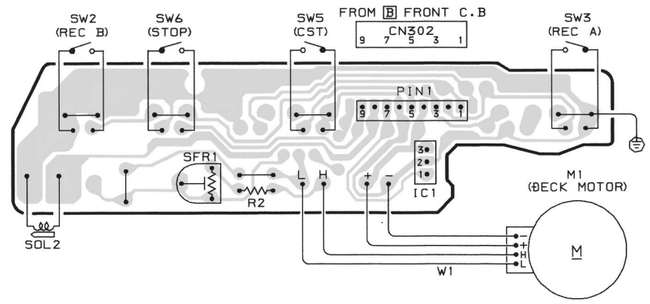
SCHEMATIC DIAGRAM - 2 (TUNER)



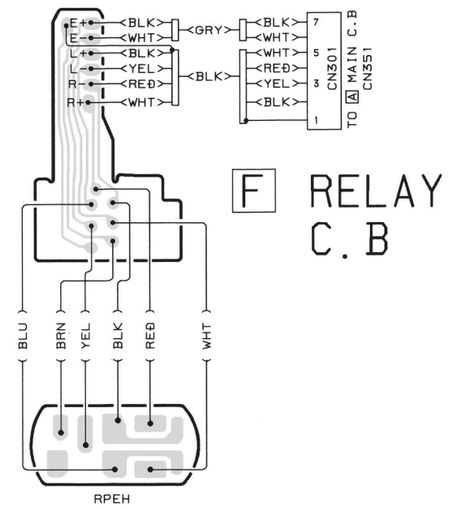
B FRONT C.B



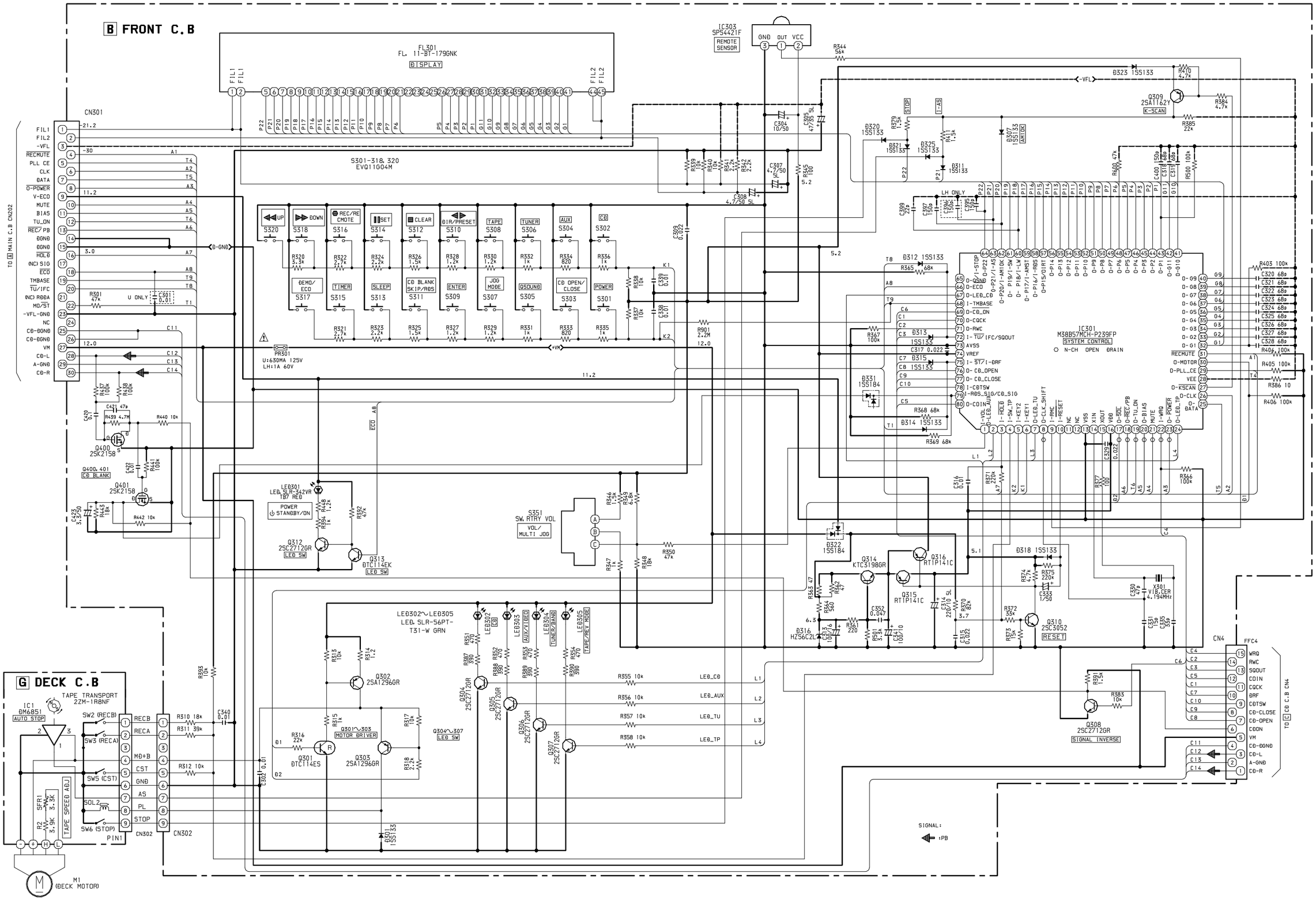
G ÐECK C.B

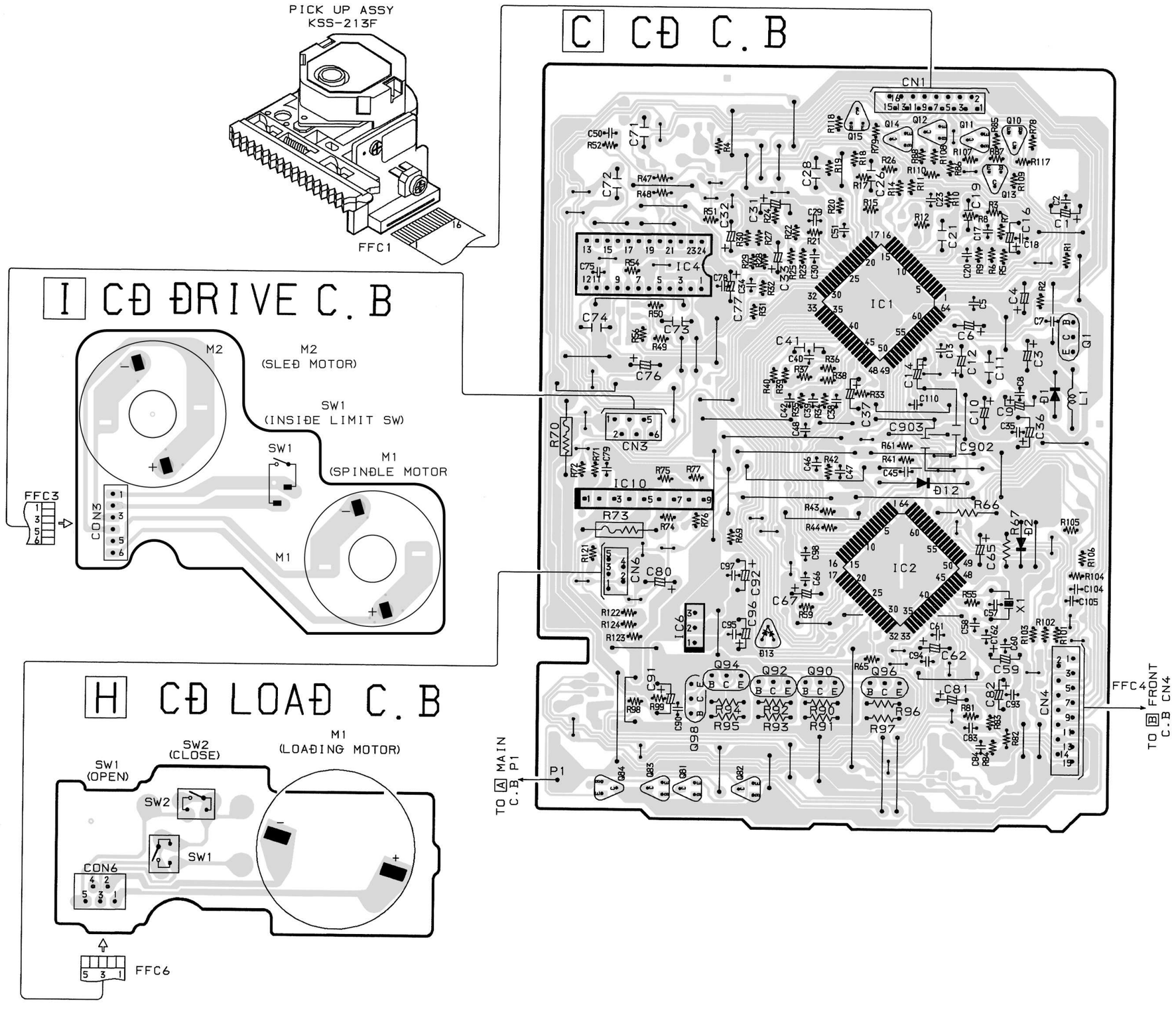


F RELAY C.B

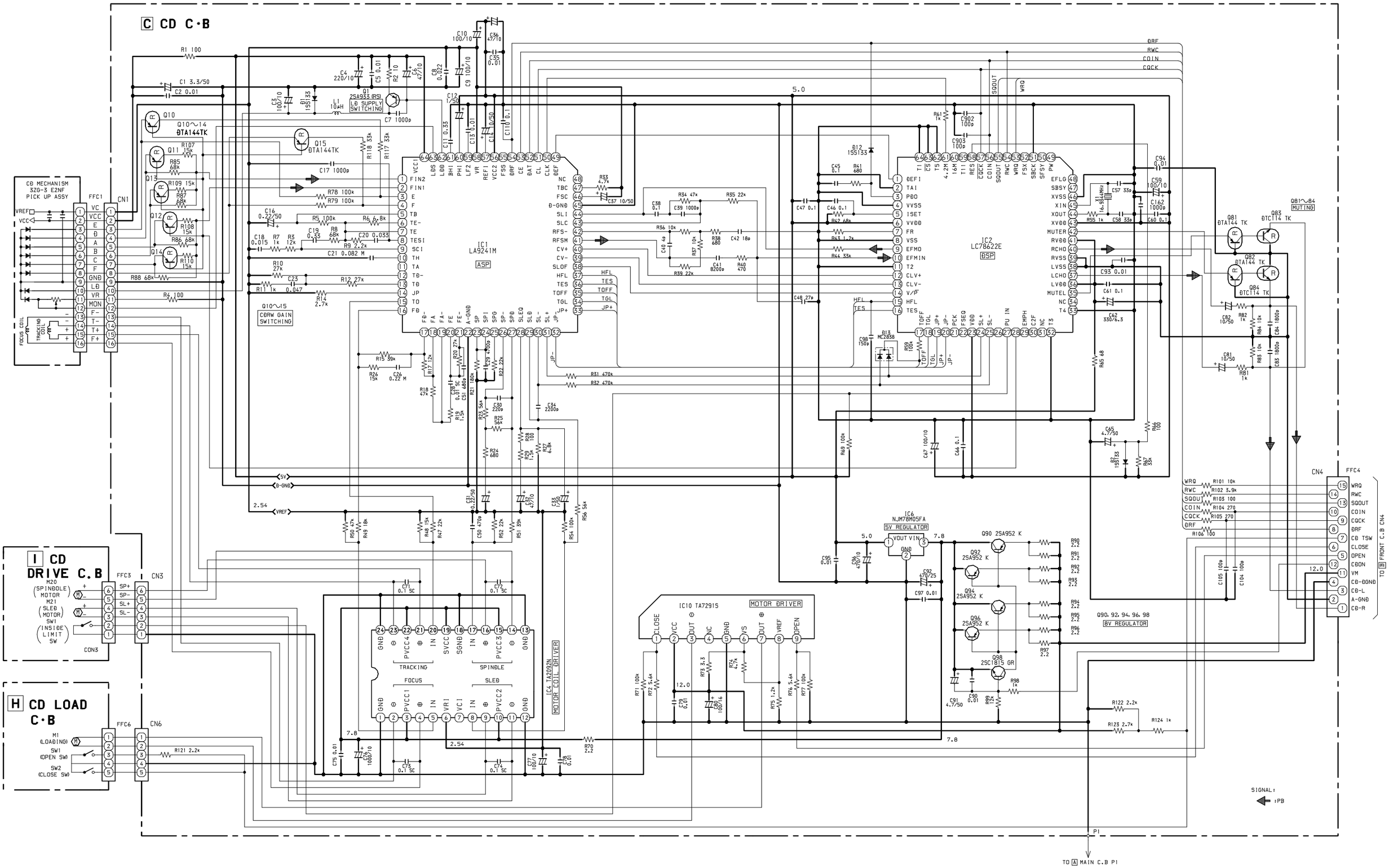


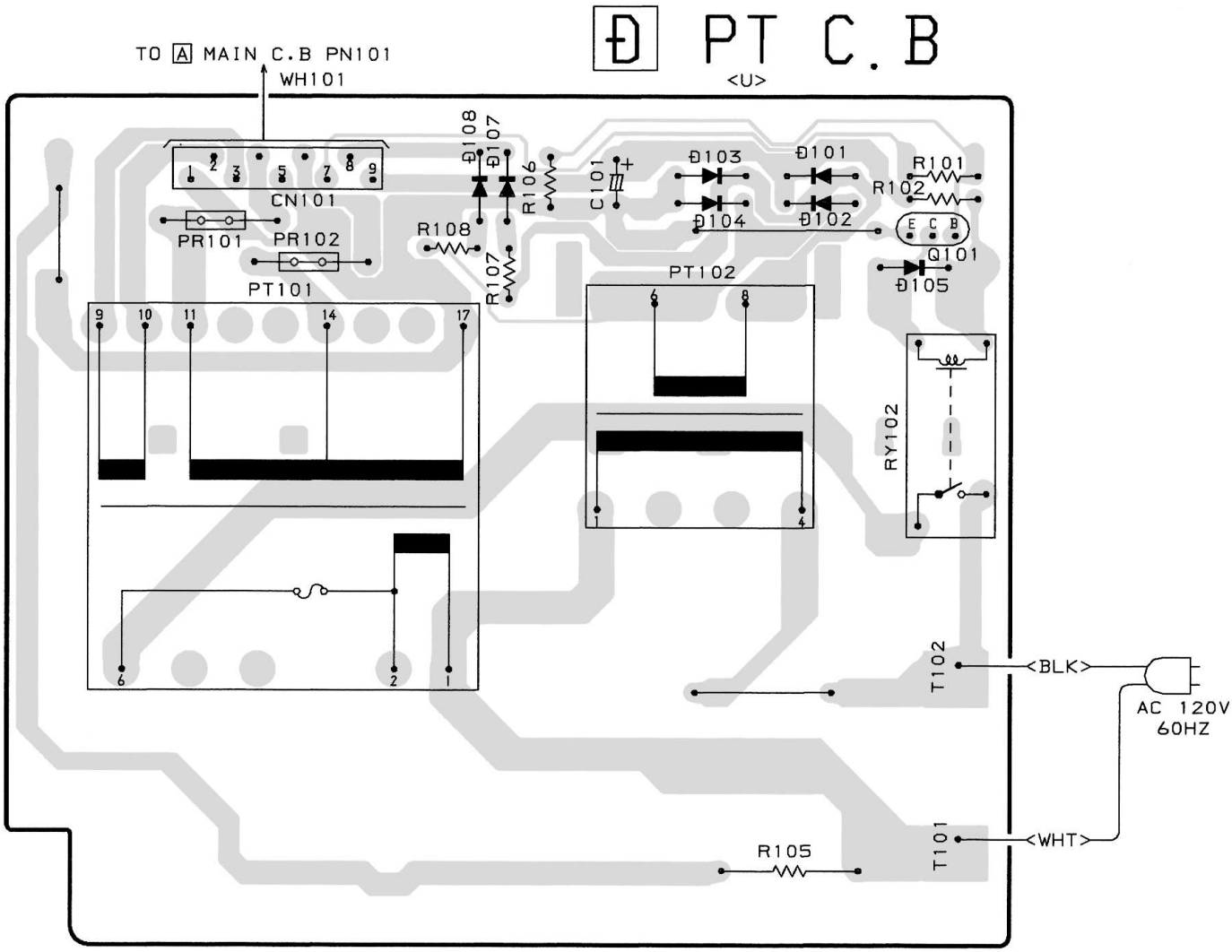
SCHEMATIC DIAGRAM - 3 (FRONT / DECK)



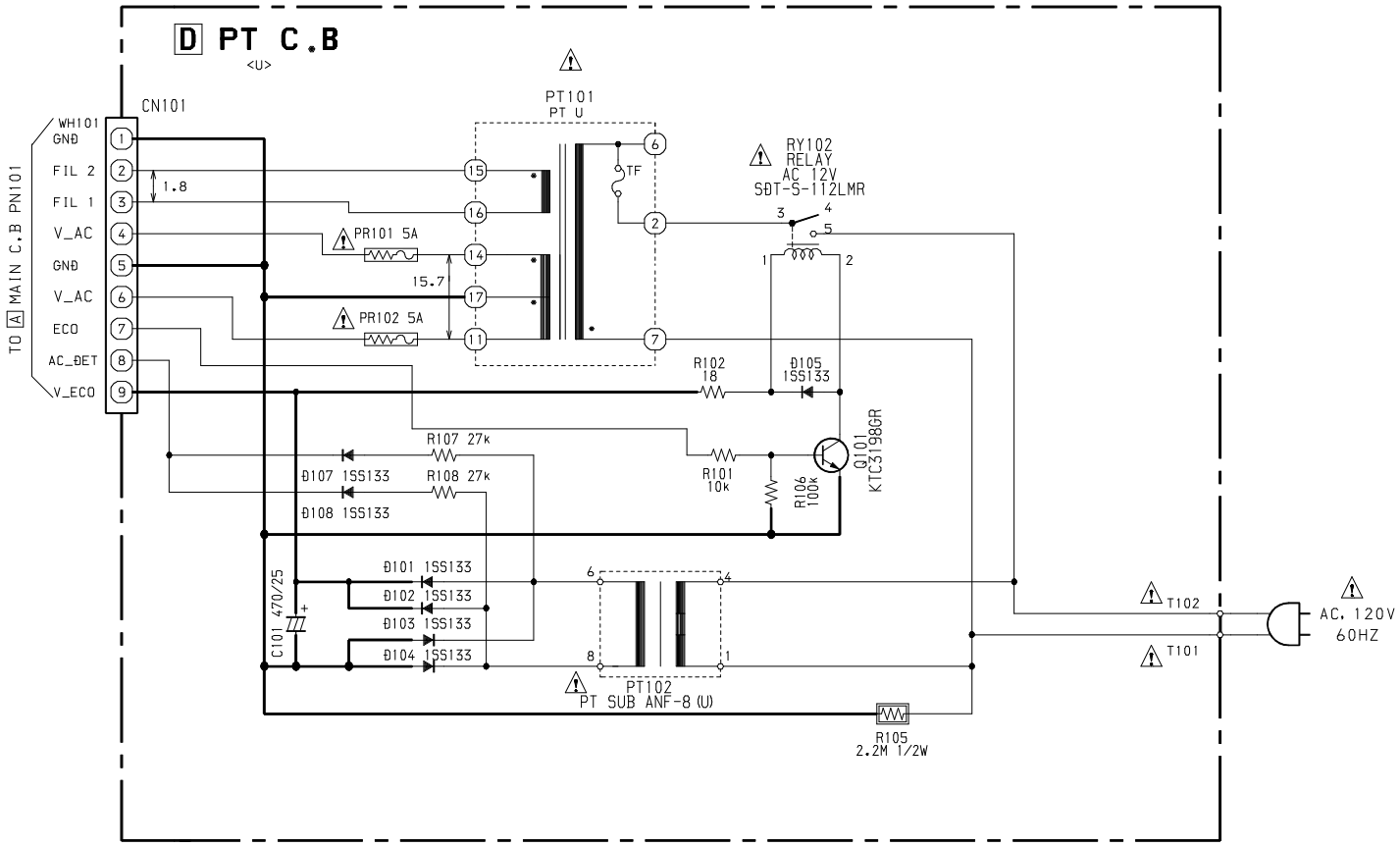

PICK UP ASSY
KSS-213F
FFC1
C CD C.B
CN1
IC1
IC2
IC4
IC10
CN3
CN6
I CD DRIVE C.B
M2
M2
(SLED MOTOR)
SW1
(INSIDE LIMIT SW)
SW1
M1
(SPINDLE MOTOR
M1
FFC3
CON3
H CD LOAD C.B
SW2
(CLOSE)
M1
(LOADING MOTOR)
SW1
(OPEN)
SW2
SW1
CON6
FFC6
P1
TO A MAIN C.B P1
FFC4
TO B FRONT C.B CN4
CN4

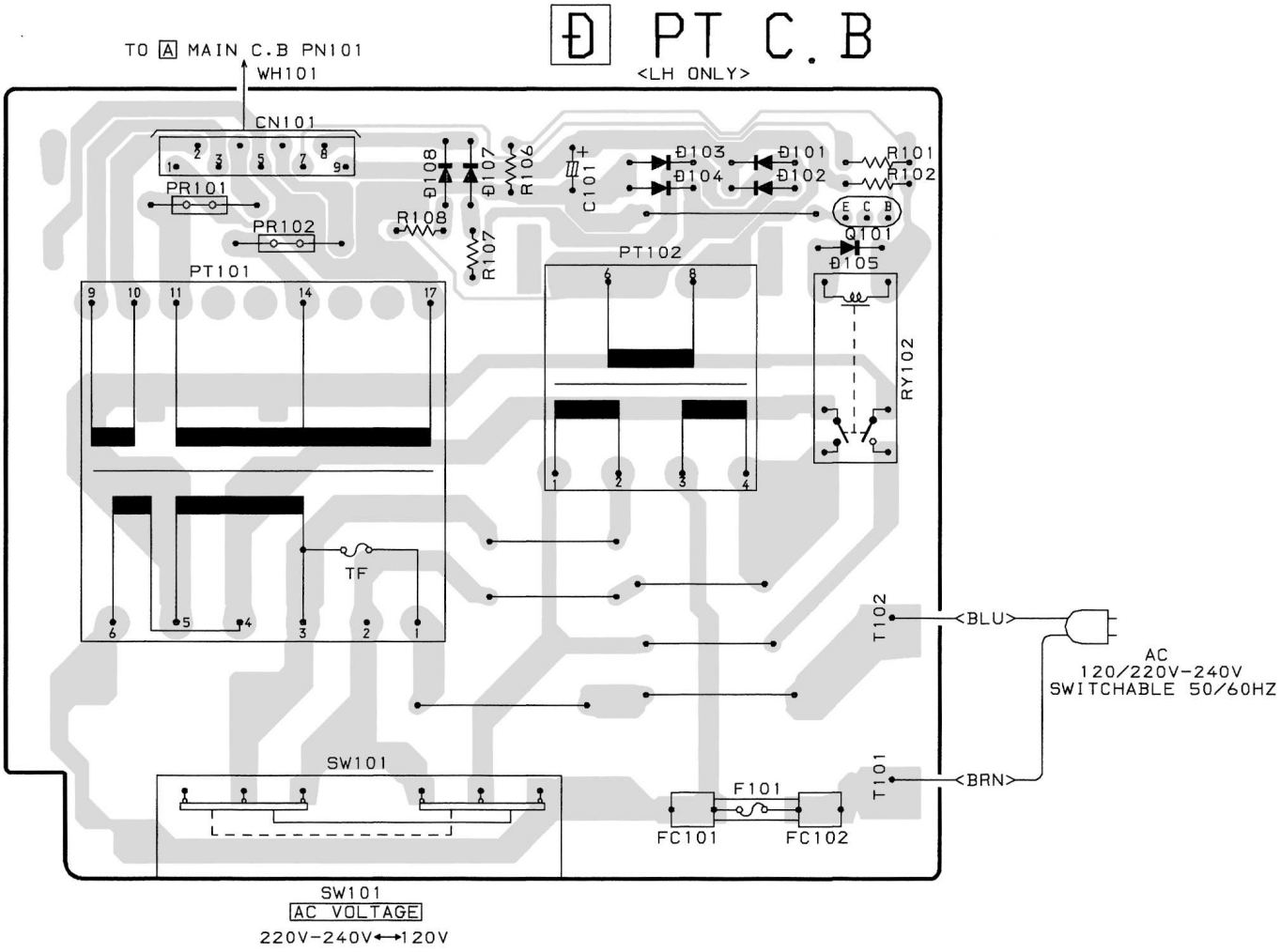
SCHEMATIC DIAGRAM - 4 (CD / CD LOAD / CD DRIVE)



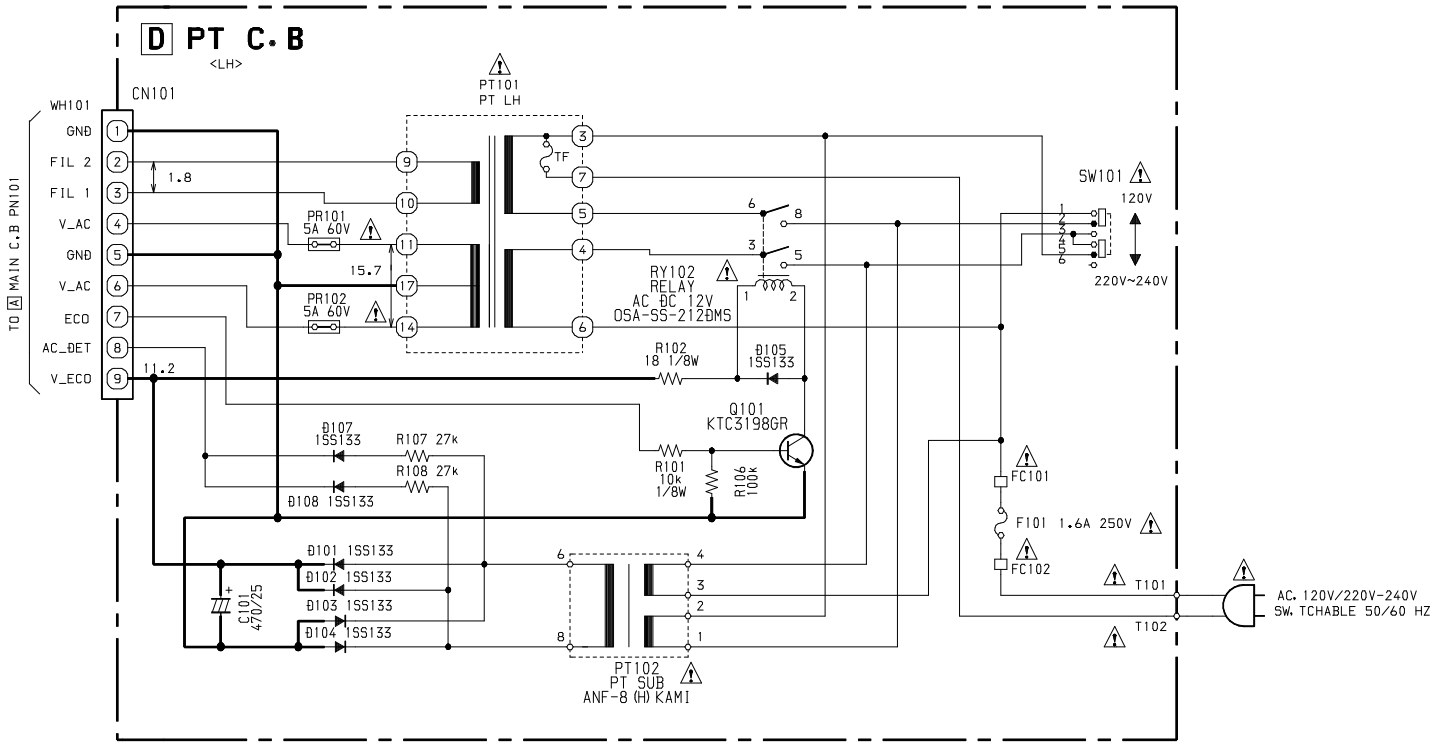

PT C.B
<U>
TO A MAIN C.B PN101
WH101
CN101
PR101
PR102
PT101
D108
D107
R106
C101
D103
D101
R101
R102
D104
D102
E C B
Q101
D105
R108
R107
PT102
RY102
T102
BLK
AC 120V
60HZ
T101
WHT
R105

SCHEMATIC DIAGRAM - 5 (PT: U)



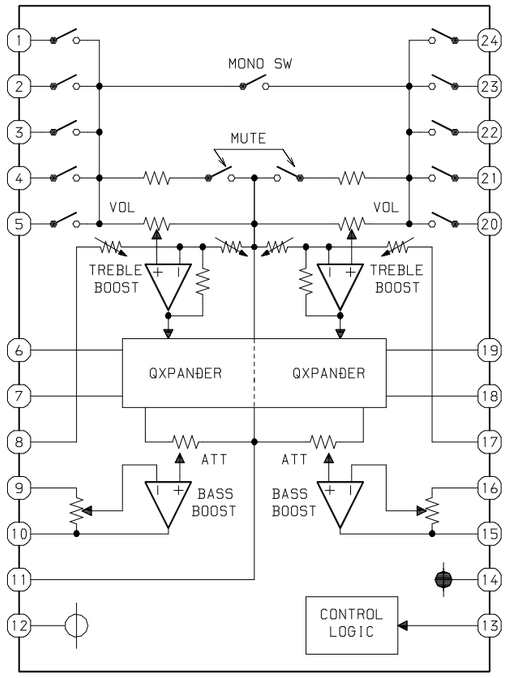

PT C.B
<LH ONLY>
TO A MAIN C.B PN101
WH101
CN101
PR101
PR102
PT101
PT102
R108
R107
D108
D107
R106
C101
D103
D104
D101
D102
R101
R102
Q101
D105
RY102
TF
T102
T101
<BLU>
<BRN>
AC
120/220V-240V
SWITCHABLE 50/60HZ
SW101
F101
FC101
FC102
SW101
AC VOLTAGE
220V-240V←→120V

SCHEMATIC DIAGRAM - 6 (PT: LH)

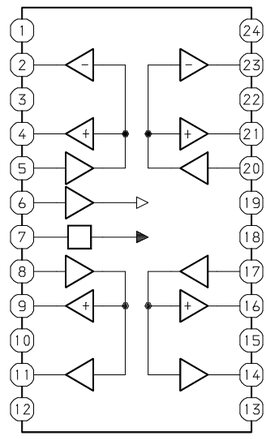


IC BLOCK DIAGRAM

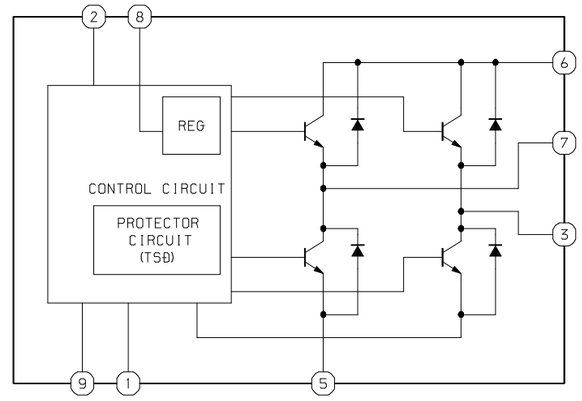
IC, M61509FP



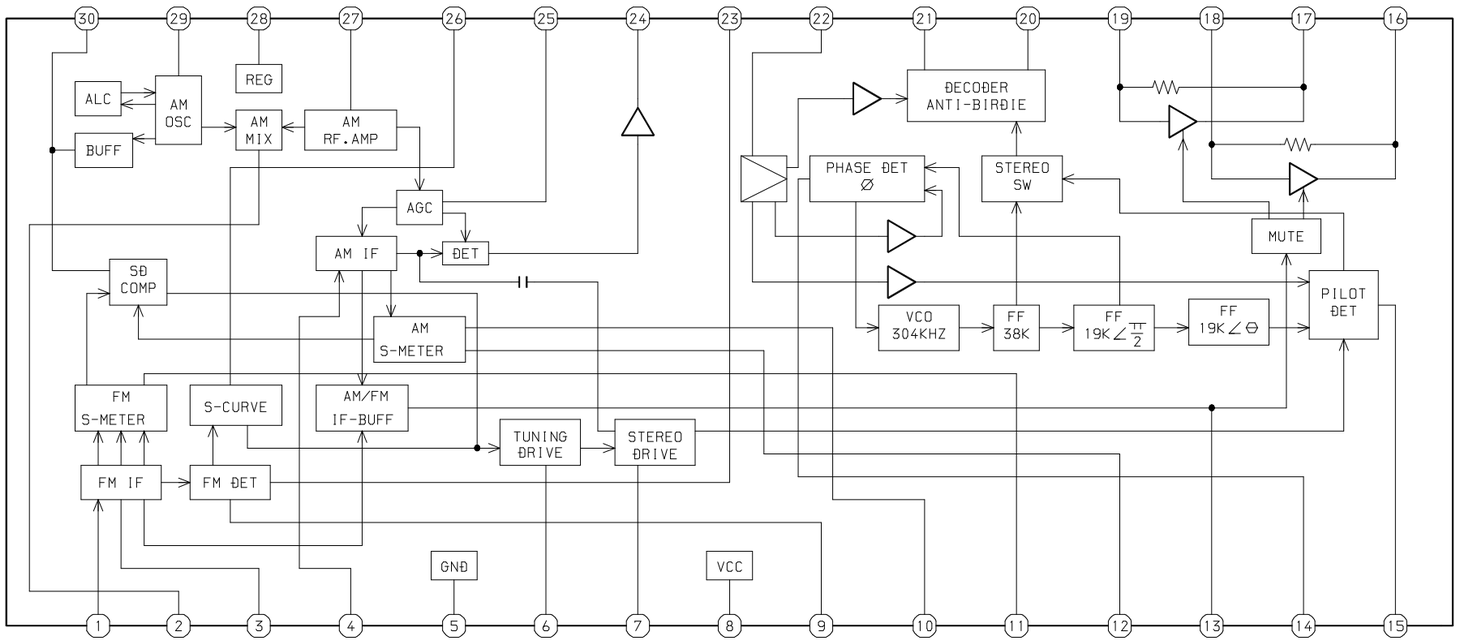
IC, TA2092N



IC, TA7291S

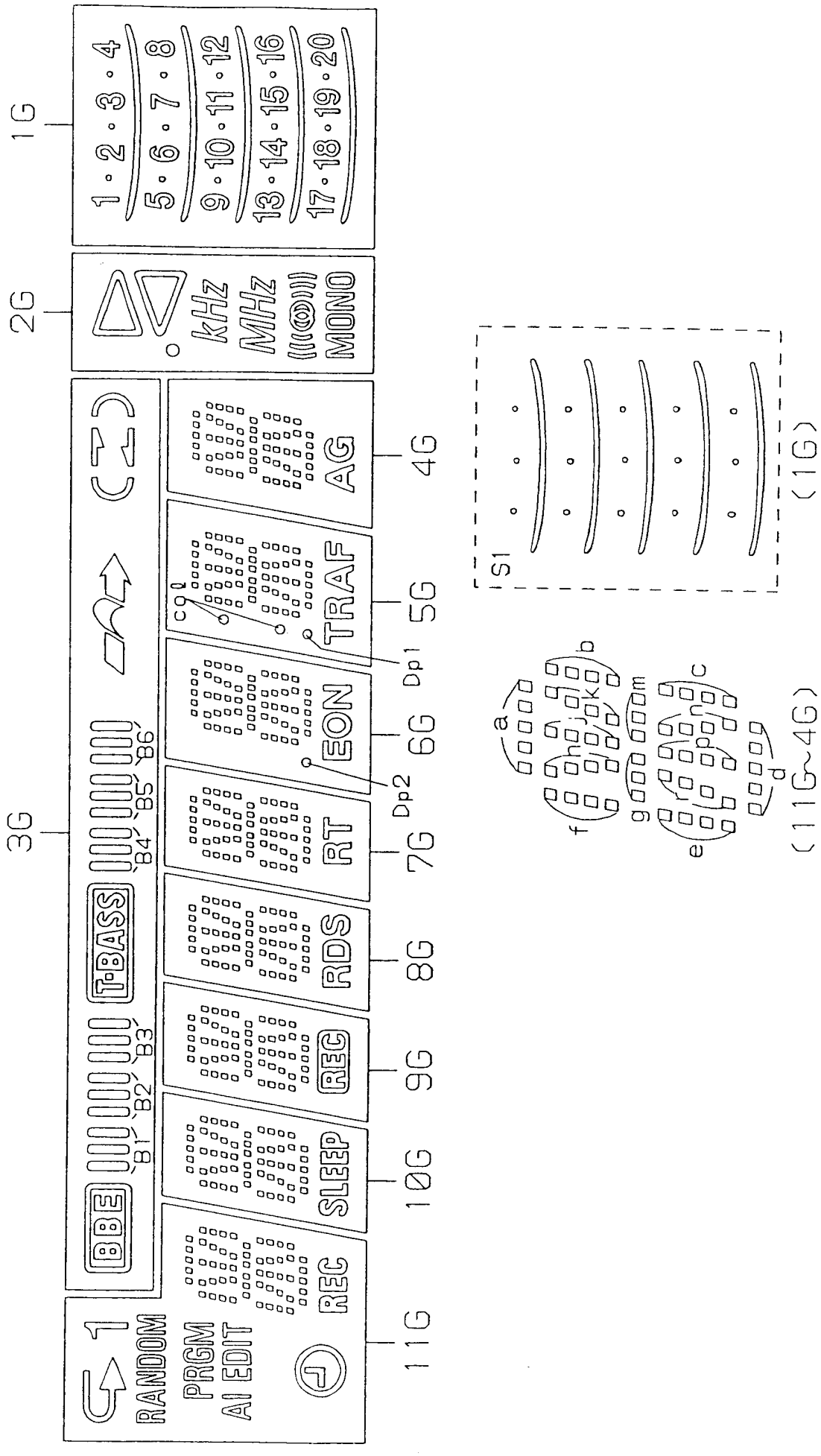


IC, LA1837NL



FL (11-BT-179GNK) GRID ASSIGNMENT AND ANODE CONNECTION

GRID ASSIGNMENT



ANODE CONNECTION

	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	REC	SLEEP	REC	RDS	RT	EON	TRAF	AG	BBE	MONO	20
P2	d	d	d	d	d	d	d	d	B1	((( )))	19
P3	n	n	n	n	n	n	n	n	B2	MHz	18
P4	p	p	p	p	p	p	p	p	B3	kHz	17
P5	r	r	r	r	r	r	r	r	T-BASS	○	16
P6	e	e	e	e	e	e	e	e	B4	◁	15
P7	c	c	c	c	c	c	c	c	B5	▷	14
P8	g	g	g	g	g	g	g	g	B6	–	13
P9	m	m	m	m	m	m	m	m		–	12
P10	f	f	f	f	f	f	f	f		–	11
P11	b	b	b	b	b	b	b	b		–	10
P12	k	k	k	k	k	k	k	k		–	9
P13	j	j	j	j	j	j	j	j	–	–	8
P14	h	h	h	h	h	h	h	h	–	–	7
P15	a	a	a	a	a	a	a	a	–	–	6
P16	RANDOM	–	–	–	–	–	col	–	–	–	5
P17	◴	–	–	–	–	–	col	–	–	–	4
P18	1	–	–	–	–	Dp2	Dp1	–	–	–	3
P19	PRGM	–	–	–	–	–	–	–	–	–	2
P20	AI	–	–	–	–	–	–	–	–	–	1
P21	EDIT	–	–	–	–	–	–	–	–	–	S1
P22	↱	–	–	–	–	–	–	–	–	–	–

IC DESCRIPTION

IC, LC876564W-5P35

Pin No.	Pin Name	I/O	Description
1	I-VOL	I	Rotary encider volume A/D input.
2	O-LED_AUX	O	Tuner functin LED ON/OFF output.Aux function LED ON/OFF output.
3	I-HOLD	I	System hold input A/D input.
4	I-SW_TP	I	Cassette detect switch A/D input.
5	I-KEY2	I	Key 2 A/D input.
6	I-KEY1	I	Key 1 A/D input.
7	O-LED_TU	O	Tuner functin LED ON/OFF output.
8	O-CLK_SHIFT	O	Micon clock shift output.
9	I-RMC	I	Remote-con data input.
10	I-$\overline{\text{RESET}}$	I	Micon reset input.
11	XCOUT	O	32.768 kHz sub clock.
12	XCIN	I	
13	VSS	I	GND.
14	NC	I	Not connected.
15	NC	O	
16	VDD	I	Power supply.
17	O-$\overline{\text{SOL}}$	O	Deck solenoid ON/OFF output.
18	O-$\overline{\text{REC}}$/PB	O	Deck record/ playback select output.
19	O-TU_ON	O	Tuner mode on output.
20	O-BIAS	O	Rec 85 kHz oscillator ON/OFF output.
21	MUTE	O	Mute output.
22	I-WRQ	I	CD WRQ input.
23	O-$\overline{\text{POWER}}$	O	Power ON/OFF control output.
24	O-LED_TP	O	Tape function LED ON/OFF output.
25	O-DATA	O	Common serial data output.
26	O-CLK	O	Common serial clock output.
27	O-$\overline{\text{KSCAN}}$	O	Key-scan output.
28	VEE	I	-VFL.
29	O-PLL_CE	O	PLL chip enable output.
30	O-MOTOR	O	Deck motor ON/OFF control output.
31	$\overline{\text{RECMUTE}}$	O	Record mute output.
32 ~ 42	O-G1 ~ G11	O	FL grid G1 ~ G11 output.
43 ~ 54	O-P1 ~ P12	O	FL port P1 ~ P12 output.
55	O-P13/LH	I/O	FL port P13 output/LH series detection.
56	O-P14	I/O	FL port P14 output.
57	O-P15/OIRT	I/O	FL port P15 output/OIRT diode detect input(Not used).
58	O-P16/I-RDS	I/O	FL port P16 output/RDS diode detect input(Not used).
59	O-P17/I-AMST	I/O	FL port P17 output/AM stereo diode detect input(Not used).
60	O-P18/I-LW	I/O	FL port P18 output/LW diode detect input(Not used).
61	O-P19/I-SW	I/O	FL port P19 output/SW diode detect input(Not used).
62	O-P20/I-AM10K	I/O	FL port P20 output/AM 10k setting diode detect input.

Pin No.	Pin Name	I/O	Description
63	O-P21/I-AS	I/O	FL port P21 output/Auto stop signal input.
64	O-P22/I-STOP	I/O	FL port P22 output/Deck stop signal input.
65	O-QSND	O	QSND chip enable output.
66	O-$\overline{\text{ECO}}$	O	Economical mode.
67	O-LED_CD	O	CD function LED ON/OFF output.
68	I-TM_BASE	I	Time base clock (8Hz) input.
69	O-$\overline{\text{CD_ON}}$	O	CD ON/OFF control output.
70	O-CQCK	O	CD clock output.
71	O-RWC	I/O	CD control data output/RDS data input(Not used).
72	I-$\overline{\text{TU}}$/IFC/SQOUT	I/O	Tuner $\overline{\text{TUNE}}$.IFC input/CD SQOUT input.
73	AVSS	I	A-GND.
74	VREF	I	Reference voltage input.
75	I-$\overline{\text{ST}}$/I-DRF	I	Tuner stereo input/CD DRF input.
76	O-CD_OPEN	O	CD tray open output.
77	O-CD_CLOSE	O	CD tray close output.
78	I-CDTSW	I	CD tray switch A/D input.
79	I-RDS_SIG/I-CD_SIG	I/O	RDS tunning level A/D input/CD music level input.
80	O-COIN	I	Command to CD DSP output.

IC, LA9241ML

Pin No.	Pin Name	I/O	Description
1	FIN2	I	Connects to the pickup's photo diode; adding this pin to pin FIN1 generates RF signal, and subtracting it generates FE signal.
2	FIN1	I	Connects to the pickup's photo diode.
3	E	I	Connects to the pickup's photo diode; subtracting this pin from pin F generates TE signal.
4	F	I	Connects to the pickup's photo diode.
5	TB	I	Input for DC component of TE signal.
6	TE–	I	Connects to the resistor between this pin and TE pin for setting the gain of TE signal.
7	TE	O	Output for TE signal.
8	TESI	I	Input for TES (Track Error Sense) comparator, TE signal is band-passed and inputted.
9	SCI	I	Input for shock detection.
10	TH	I	For setting tracking gain time constant.
11	TA	O	TA amplifier output pin.
12	TD–	I	For constructing tracking phase compensation constant between TD and VR pins.
13	TD	O	For setting tracking phase compensation.
14	JP	I	For setting the amplifier of tracking jump signal (kick pulse).
15	TO	O	Output for tracking control signal.
16	FD	O	Output for focusing control signal.
17	FD–	I	For constructing focusing phase compensation constant between FD and FA pins.
18	FA	O	For constructing focusing phase compensation constant between FD– and FA– pins.
19	FA–	I	For constructing focusing phase compensation constant between FA and FE pins.
20	FE	O	Output for FE signal.
21	FE–	I	Connects to the gain-setting resistor of FE signal between this pin and FE pin.
22	A-GND	–	GND for analog signals.
23	NC	–	Not connected.
24	SP	O	Single end output of CV+ and CV– pin input signal.
25	SPG	I	Connects to the gain-setting resistor during spindle 12cm mode.
26	SP–	I	Connects to spindle phase compensation constant together with SPD pin.
27	SPD	O	Output for spindle control signal.
28	SLEQ	I	Connects to sled phase compensation constant.
29	SLD	O	Output for sled control signal.
30	SL–	I	Input for sled-sending signal from microcontroller.
31	SL+	I	Input for sled-sending signal.
32	JP–	I	Input for tracking-jump signal from DSP.
33	JP+		
34	TGL	I	Input for tracking gain control signal from DSP; gain is low if TGL = "H".
35	TOFF	I	Input for tracking off control signal from DSP; off if TOFF = "H".
36	TES	O	Outputs TES signal to DSP.
37	HFL	O	HIGH FREQUENCY LEVEL; used to determine whether the main beam is on a pit or on a mirror.
38	SLOF	I	Input for sled servo off control.

Pin No.	Pin Name	I/O	Description
39	CV–	I	Input for CLV error signal from DSP.
40	CV+		
41	RFSM	O	Output for RF.
42	RFS–	O	For setting RF gain and 3T compensation constant together with RFSM.
43	SLC	O	SLICE LEVEL CONTROL; output for controlling the data slice level of DSP with RF waveform.
44	SLI	I	Input for controlling the data slice level of DSP.
45	D-GND	–	GND for digital system.
46	FSC	O	Output pin for focus search smoothing capacitor.
47	TBC	I	(Tracking Balance Control) EF balance variable range setting pin.
48	NC	–	Not connected.
49	DEF	O	Output for disk defect detection.
50	CLK	I	Standard clock input; DSP's 4.23MHz is inputted.
51	CL	I	Clock input for microcontroller command.
52	DAT	I	Data input for microcontroller command.
53	CE	I	Chip-enable input for microcontroller command.
54	DRF	O	Detect RF; output for RF level detection.
55	FSS	I	(Focus Search Mode) = search/+search against reference voltage switching pin. (Not used)
56	VCC2	–	VCC pin for servo and digital systems.
57	REFI	I	For connecting pass capacitor to reference voltage.
58	VR	O	Reference voltage output.
59	LF2	–	For setting disk defect-detection time constant.
60	PHI	–	Connects to capacitor for RF signal peak hold.
61	BHI	–	Connects to capacitor for RF signal bottom hold.
62	LDD	O	Output for APC circuit.
63	LDS	I	Input for APC circuit.
64	VCC1	–	VCC pin for RF system.

IC, LC78622ED

Pin No.	Pin Name	I/O	Description
1	DEFI	I	Defect detection signal (DEF) input.
2	TAI	I	Test input. A pull-down resistor is built in. Must be connected to 0V.
3	PDO	O	External VCO control phase comparator output.
4	VVSS	–	Internal VCO ground. Must be connected to 0V.
5	ISET	O	PDO output current adjustment resistor connection.
6	VVDD	–	Internal VCO power supply.
7	FR	–	VCO frequency range adjustment.
8	VSS	–	Digital system ground. Must be connected to 0V.
9	EFMO	O	Slice level control; EFM signal output.
10	EFMIN	I	Slice level control; EFM signal input.
11	T2	I	Test input. A pull-down resistor is built in. Must be connected to 0V.
12	CLV+	O	Disc motor control output. Three-value ouput is also possible when specified by microprocessor command.
13	CLV–		
14	V/$\overline{P}$	O	Rough servo/phase control automatic switching monitor output. Outputs a high level during rough servo and a low level during phase control.
15	HFL	I	Track detection signal input. This is a Schmitt input.
16	TES	I	Tracking error signal input. This is a Schmitt input.
17	TOFF	O	Tracking off output.
18	TGL	O	Tracking gain switching output. Increase the gain when low.
19	JP+	O	Track jump output. Three-value output is also possible when specified by microprocessor command.
20	JP–		
21	PCK	O	EFM data playback clock monitor. Outputs 4.3218 MHz when the phase is locked. (Not used)
22	FSEQ	O	Synchronization signal detection ouput. Outputs a high level when the synchronization signal detected from the EFM signal and the internally generated synchronization signal agree. (Not used)
23	VDD	–	Digital system power supply.
24	SL+	O	Serial data command sled signal output terminal from microprocessor.
25	SL–		
26	NC	–	Not used.
27	PU IN	I	CD pickup inside limit switch.
28	NC	–	Not used.
29	EMPH	O	De-emphasis monitor pin. A high level indicates playback of a de-emphasis disk. (Not used)
30	C2F	O	C2 flag output. (Not used)
31	DOUT	O	Digital output (EIAJ format).
32	T3	I	Test input. A pull-down resistor is built in. Must be connected to 0V.
33	T4		
34	NC	–	Unused. Must be left open.
35	MUTEL	O	Left channel one-bit D/A converter mute output.
36	LVDD	–	Left channel one-bit D/A converter power supply.

Pin No.	Pin Name	I/O	Description
37	LCHO	O	Left channel one-bit D/A converter output.
38	LVSS	–	Left channel one-bit D/A converter ground. Must be connected to 0V.
39	RVSS	–	Right channel one-bit D/A converter ground. Must be connected to 0V.
40	RCHO	O	Right channel one-bit D/A converter output.
41	RVDD	–	Right channel one-bit D/A converter power supply.
42	MUTER	O	Right channel one-bit D/A converter mute ouput.
43	XVDD	–	Crystal oscillator power supply.
44	XOUT	O	Connections for a 16.934MHz crystal oscillator element.
45	XIN	I	
46	XVSS	–	Crystal oscillator ground. Must be connected to 0V.
47	SBSY	O	Subcode block synchronization signal output. (Not used)
48	EFLG	O	C1, C2 single and double error correction monitor pin. (Not used)
49	PW	O	Subcode P, Q, R, S, T, U, V and W output. (Not used)
50	SFSY	O	Subcode frame synchronization signal output. This signal falls when the subcode are in the standby state. (Not used)
51	SBCK	I	Subcode readout clock input. This is a Schmitt input. (Must be connected to 0V when unused)
52	FSX	O	Output for the 7.35 kHz synchronization signal divided from the crystal oscillator. (Not used)
53	WRQ	O	Subcode Q output standby output.
54	RWC	I	Readwrite control input. This is a Schmitt input.
55	SQOUT	O	Subcode Q output.
56	COIN	I	Command input from the control microprocessor.
57	$\overline{\text{CQCK}}$	I	Input for both the command input acquisition clock and the SQOUT pin subcode readout clock input. This is a Schmitt input.
58	$\overline{\text{RES}}$	I	Chip reset pin. This pin must be set low briefly after power is first applied.
59	T11	O	Test output. Leave open. (Normally outputs a low level). (Not used)
60	16M	O	16.9344 MHz output. (Not used)
61	4.2M	O	4.2336 MHz output.
62	T5	I	Test input. A pull-down resistor is built in. Must be connected to 0V.
63	$\overline{\text{CS}}$	I	Chip select input. A pull-down resistor is built in. Must be connected to 0V if not controlled.
64	T1	I	Test input. No pull-down resistor. Must be connected to 0V.

IC, LC72131D

<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Description</th></tr>
<tr><td>1</td><td>X-IN</td><td>I</td><td rowspan="2">A crystal oscillator (7.2MHz) is connected between these pins.</td></tr>
<tr><td>22</td><td>X-OUT</td><td>O</td></tr>
<tr><td>2</td><td>NC</td><td>–</td><td>Not used.</td></tr>
<tr><td>3</td><td>CE</td><td>I</td><td>To enable the IC. Active "H".</td></tr>
<tr><td>4</td><td>DI</td><td>I</td><td>Digital data input from CPU (M38B57MC-P214FP / M38B57MCH-P226F) when relevant key is operated. Active "H".</td></tr>
<tr><td>5</td><td>CL</td><td>I</td><td>To clock in the data DI.</td></tr>
<tr><td>6</td><td>DO</td><td>O</td><td>Digital data output to CPU (M38B57MC-P214FP / M38B57MCH-P226F).</td></tr>
<tr><td>7</td><td>T-BASE</td><td>O</td><td>Outputs a reference clock signal (8Hz) for the clock.</td></tr>
<tr><td>8</td><td>$\overline{\text{MONO}}$ / BEAT</td><td>O</td><td>Outputs "H" when MONO / BEAT is switched.</td></tr>
<tr><td>9</td><td>$\overline{\text{FM}}$ / $\overline{\text{SW}}$</td><td>O</td><td>Output "L" or "H" as follows:
<table>
<tr><th colspan="2">2 BAND</th><th colspan="3">3 BAND</th><th colspan="3">3 BAND</th></tr>
<tr><th>AM</th><th>FM</th><th>LW</th><th>MW</th><th>FM</th><th>MW</th><th>SW</th><th>FM</th></tr>
<tr><td>H</td><td>L</td><td>H</td><td>H</td><td>L</td><td>H</td><td>L</td><td>L</td></tr>
</table></td></tr>
<tr><td>10</td><td>$\overline{\text{MW}}$ / SW</td><td>O</td><td>Outputs "L" or "H" as follows:
<table>
<tr><th colspan="2">2 BAND</th><th colspan="3">3 BAND</th><th colspan="3">3 BAND</th></tr>
<tr><th>AM</th><th>FM</th><th>LW</th><th>MW</th><th>FM</th><th>MW</th><th>SW</th><th>FM</th></tr>
<tr><td>L</td><td>L</td><td>H</td><td>L</td><td>L</td><td>L</td><td>H</td><td>L</td></tr>
</table></td></tr>
<tr><td>11</td><td>IF-MUTE</td><td>O</td><td>To control internal counter.</td></tr>
<tr><td>12</td><td>IF-IN</td><td>I</td><td>General purpose counter input.</td></tr>
<tr><td>13</td><td>$\overline{\text{TUNE}}$</td><td>I</td><td>Receives "L" when station is tuned.</td></tr>
<tr><td>14</td><td>NC</td><td>–</td><td>Not used.</td></tr>
<tr><td>15</td><td>AM-IN</td><td>I</td><td>Receives the AM local oscillator frequency signal.</td></tr>
<tr><td>16</td><td>FM-IN</td><td>I</td><td>Receives the FM local oscillator frequency signal.</td></tr>
<tr><td>17</td><td>VDD</td><td>–</td><td>Supply power to IC (+5V).</td></tr>
<tr><td>18</td><td>PD</td><td>O</td><td>PLL charge pump output.</td></tr>
<tr><td>19</td><td>A-IN</td><td>I</td><td rowspan="2">The MOS transistor for PLL active low pass filter.</td></tr>
<tr><td>20</td><td>A-OUT</td><td>O</td></tr>
<tr><td>21</td><td>VSS</td><td>–</td><td>Ground.</td></tr>
</table>

ADJUSTMENT

< TUNER SECTION >

1. Clock Frequency Check
   Settings : • Test point : TP2 (CLK)
   Method : Set to MW 1710kHz and check that the test point is 2160kHz ± 45Hz.

2. MW VT Check
   Settings : • Test point : TP1 (VT)
   Method : Set to MW 1710kHz and AM 530kHz and check that the test point is less than 8.5V(1710kHz) and more than 0.6V(530kHz).

3. MW Tracking Adjustment
   Settings : • Test point : TP6(Lch), TP7(Rch)
   • Adjustment location :
   L981(1/3)..... 1000kHz
   Method : Set to MW 1000kHz and adjust L981(1/3) so that the test point is max.

4. FM VT Check
   Settings : • Test point : TP1 (VT)
   Method : Set to FM 108.0MHz and check that the test point is less than 8.0V.
   Set to FM 87.5MHz and check that the test point is more than 0.5V.

5. FM Tracking Check
   Settings : • Test point : TP6(Lch), TP7(Rch)
   Method : Set to FM 98.0MHz and check that the test point is less than 9.0dBμV.

6. AM IF Adjustment
   Settings : • Test point : TP6(Lch), TP7(Rch)
   • Adjustment location :
   L772.....450kHz

7. DC Balance / Mono Distortion Adjustment
   Settings : • Test point : TP3, TP4 (DC Balance)
   TP8(Lch), TP9(Rch) (Distortion)
   • Adjustment location : L771
   • Input level : 60dBμV
   Method : Set to FM 98.0MHz and adjust L771 so that the voltage between TP3 and TP4 becomes 0V ± 0.04V. Next, check that the distortion is less than 1.3%

< DECK SECTION >

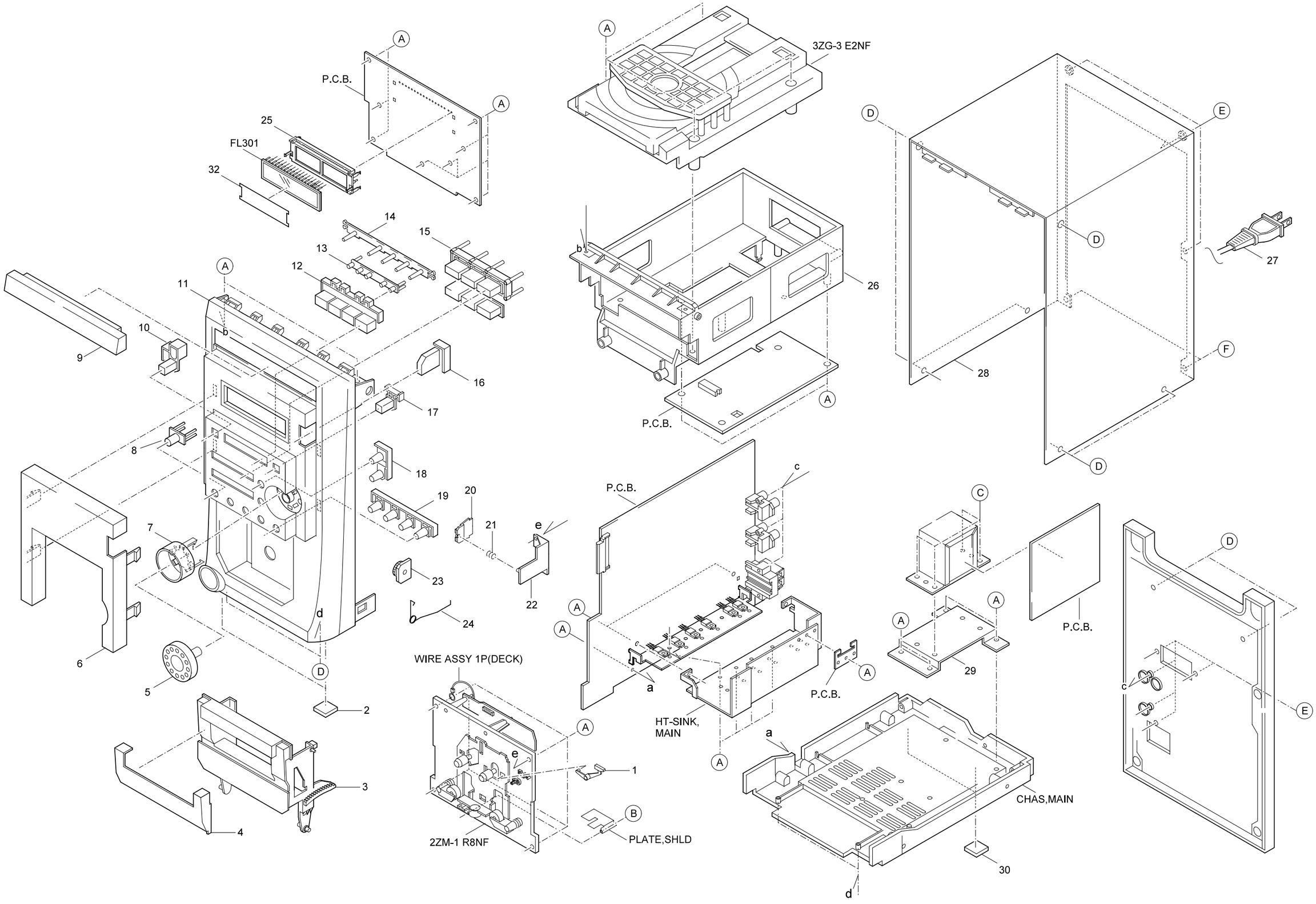
1. Tape Speed Adjustment
   Settings : • Test tape : TTA–100
   • Test point : SP–OUT 2V
   • Adjustment location : SFR1
   Method : Play back the test tape and adjust SFR1 for 3000Hz ± 5Hz (FWD) and FWD PLAY speed ± 45Hz (REV).

2. Head Azimuth Adjustment
   Settings : • Test tape : TTA–300
   • Test point : SP–OUT 2V
   • Adjustment location : Head azimuth adjustment screw
   Method : Play back the 8kHz signal of the test tape and adjust screw so that the output becomes maximum. Next, perform on each FWD PLAY and REV PLAY mode.

3. PB Frequency Response Check
   Settings : • Test tape : TTA–320
   • Test point : SP–OUT 2V
   Method : Play back the 315Hz and 10kHz signals of the test tape and check that the 10kHz signal with respect to that of the 315Hz signal is 0dB ± 3dB.

4. REC/PB Frequency Response Check
   Settings : • Test tape : TTA–602
   • Test point : SP–OUT 2V
   Method : Input a –20VU signal to the AUX terminal. Record the 1kHz and 10kHz signals on the test tape and play back them. Check that the difference between the record level and the play back level at 1kHz and 10kHz signal is 0dB to ± 3dB.

MECHANICAL EXPLODED VIEW 1 / 1



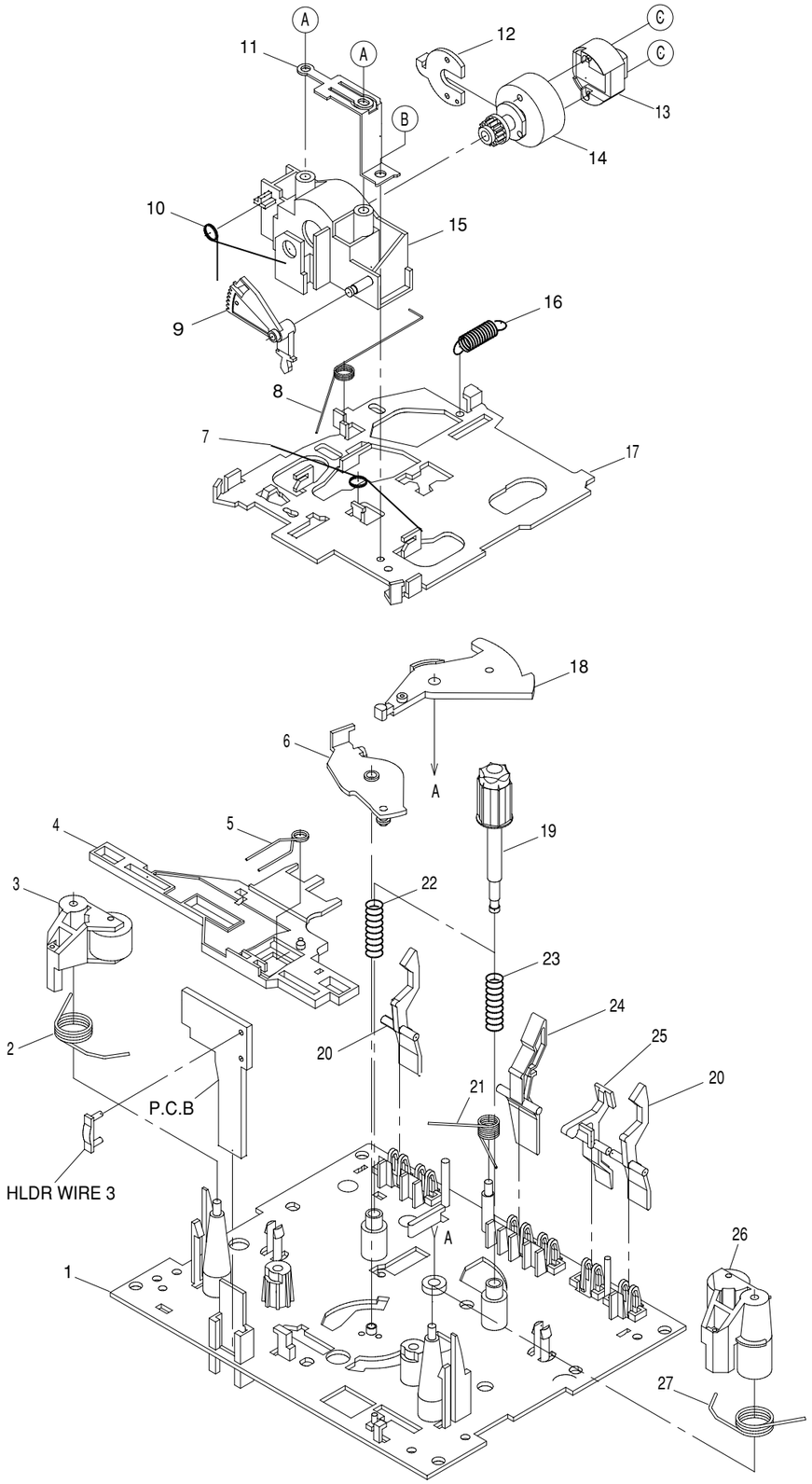
MECHANICAL PARTS LIST 1 / 1

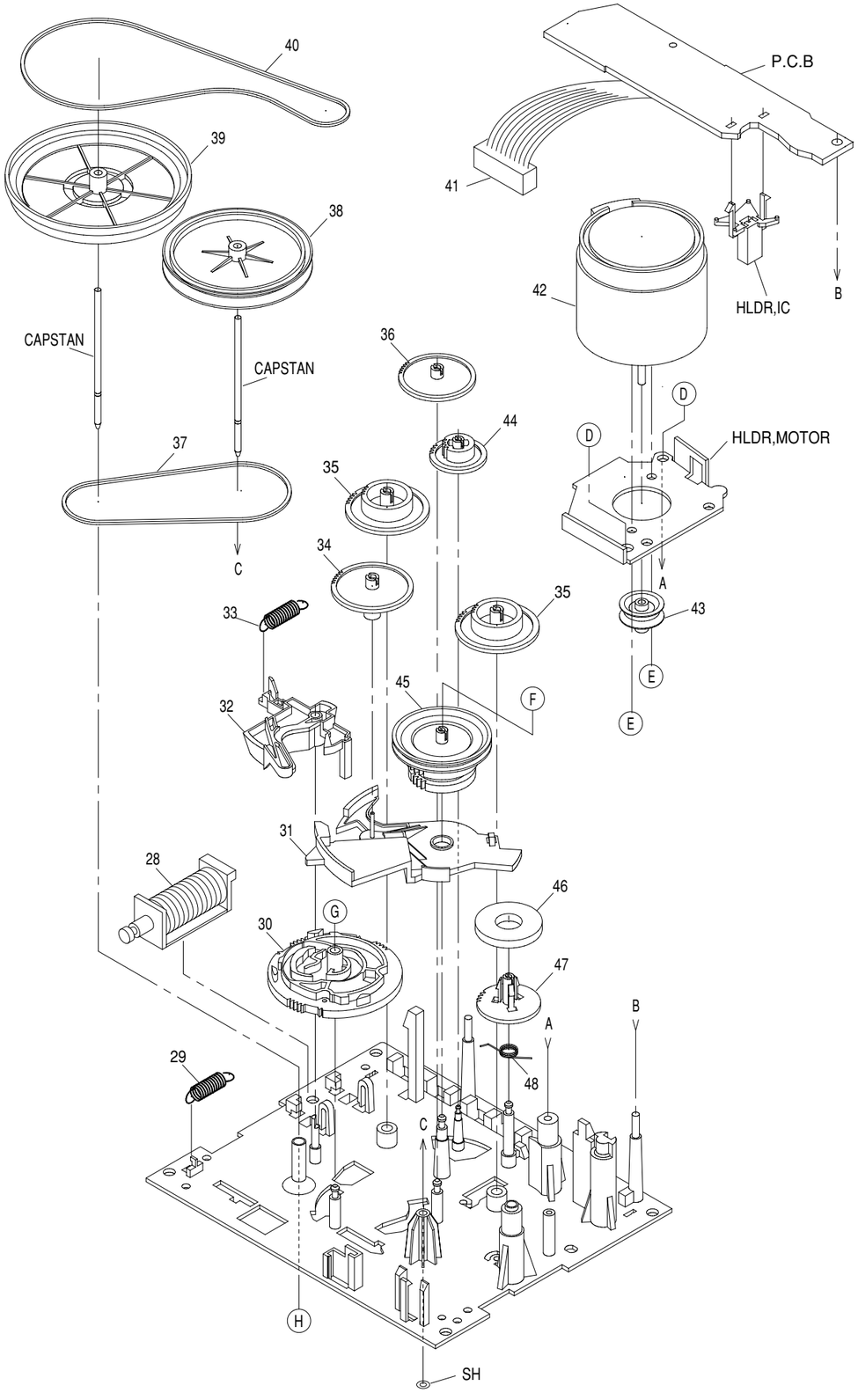
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	82-ZM1-264-010		LVR,EJECT R
2	88-CL4-215-010		CUSH,FOOT FR
3	8A-CL9-047-010		BOX,CASS H<LH>
3	8A-CL9-046-010		BOX,CASS U<U>
4	8A-CL9-054-010		WINDOW CASS SG<LH>
4	8A-CL9-052-010		WINDOW,CASS<U>
5	8A-CL9-080-010		KNOB,RTRY VOLUME
6	8A-CL9-056-010		WINDOW DISP SG<LH>
6	8A-CL9-051-010		WINDOW,DISPLAY U<U>
7	8A-CL9-077-010		RING,VOLUME
8	8A-CL9-088-010		LENS,REMOTE-C
9	8A-CL9-030-010		PANEL,TRAY ASSY<U>
9	8A-CL9-033-010		PANEL,TRAY SG A<LH>
10	8A-CL9-062-010		KEY,POWER
11	8A-CL9-003-010		CABI,FRONT SI-MB<LH>
11	8A-CL9-001-010		CABI,FRONT U<U>
12	8A-CL9-063-010		KEY,FUNC aASSY
13	8A-CL9-206-010		GUIDE,LED-FUNC
14	8A-CL9-085-010		REFLECTOR,LED-FUNC
15	8A-CL9-066-010		KEY,CONTROL
16	8A-CL9-065-010		KEY,OPEN
17	8A-CL9-067-010		KEY,Q-SOUND
18	8A-CL9-068-010		KEY,JOGMODE
19	8A-CL9-069-010		KEY,DEMO
20	82-NF5-229-010		PLATE,LOCK
21	86-NF9-224-010		SPR-C,LOCK
22	87-NF4-217-110		HLDR,LOCK 2
23	87-NF8-220-010		DMPR,150
24	88-CL4-220-010		SPR-T,CASS
25	82-NF7-210-110		GUIDE,FL (*)
26	8A-CL9-202-010		HLDR,CD<LH>
26	8A-CL9-203-010		HLDR,CD U<U>
⚠ 27	87-A80-148-010		AC CORD ASSY,E BLK<LH>
⚠ 27	87-A80-149-010		AC CORD ASSY,U BLK<U>
28	8A-CL9-026-010		CABI,TOP<LH>
28	8A-CL9-027-010		CABI,TOP U<U>
29	8A-CL9-211-010		HLDR,TRANS
30	88-CL4-216-010		CUSH,FOOT REAR
31	8A-CL9-015-010		PANEL,REAR LHSC<LH>
31	8A-CL9-011-010		PANEL,REAR USC<U>
32	8A-CL9-095-010		PLATE,FL
A	87-067-703-010		TAPPING SCREW, BVT2+3-10
B	87-571-032-410		VIT+2-3
C	87-581-170-410		UIT+4-8
D	87-B10-231-010		QT1+3-12 SILVER CR
E	87-B10-230-010		BVT2+3-10 W/O SLOT SILVER CR
F	87-B10-250-010		BVT2+3-12 W/O SLOT CR SILVER

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange		

TAPE MECHANISM EXPLODED VIEW 1 / 1

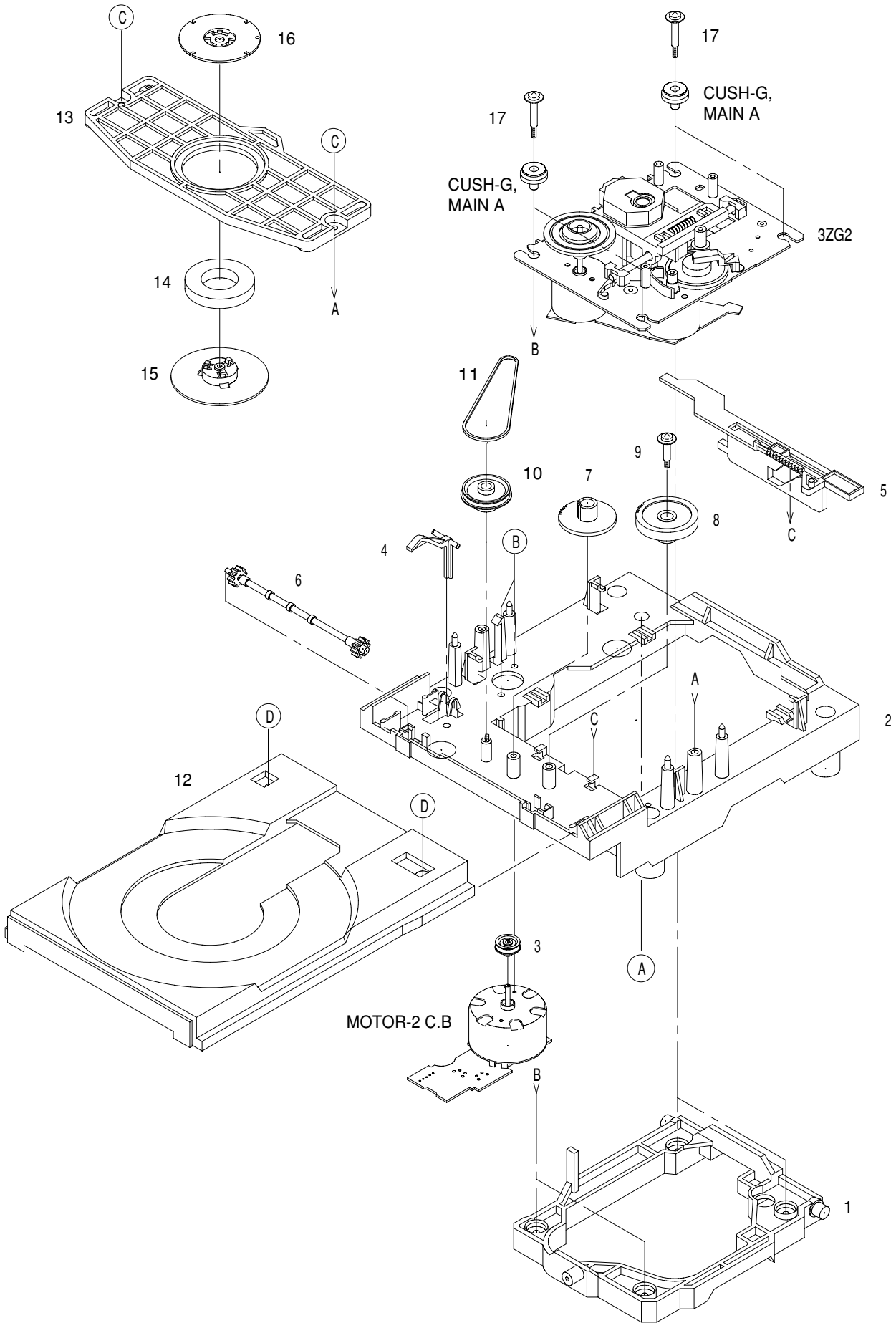




TAPE MECHANISM PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	82-ZM1-327-310		CHAS ASSY,RM
2	82-ZM1-258-210		SPR-T,PINCH L
3	82-ZM1-341-210		LVR ASSY,PINCH L2
4	82-ZM1-266-310		LVR,DIR
5	82-ZM1-214-010		SPR-T,DIR
6	82-ZM1-333-210		PLATE,LINK2
7	82-ZM1-269-210		SPR-T,BRG
8	82-ZM1-219-110		SPR-T,LINK
9	82-ZM1-210-110		GEAR,H T
10	82-ZM3-353-010		SPR-T,HEAD 2
11	82-ZM1-298-010		SPR-P EARTH
12	82-ZM1-314-110		PLATE,HEAD
13	87-046-399-110		HEAD,RPH YK56R-BS411
14	82-ZM1-208-310		HLDR,HEAD
15	82-ZM1-207-910		GUIDE,TAPE
16	82-ZM1-218-010		SPR-E,HB
17	82-ZM1-206-910		CHAS,HEAD
18	82-ZM1-222-310		LVR,PLAY(*)
19	82-ZM1-217-410		REEL TABLE
20	82-ZM1-240-110		LVR,REC(*)
21	82-ZM1-257-010		SPR-T,CAS
22	82-ZM1-285-410		SPR-C,BT L
23	82-ZM1-244-510		SPR-C,BT
24	82-ZM1-242-010		LVR,CAS
25	82-ZM1-243-010		LVR,STOP
26	82-ZM1-344-210		LVR ASSY,PINCH R2
27	82-ZM1-259-210		SPR-T,PINCH R
28	82-ZM3-627-010		SOL ASSY,27 SO
29	82-ZM1-255-310		SPR-E,LVR DIR
30	82-ZM1-221-310		GEAR,CAM(*)
31	82-ZM1-224-410		LVR,FR
32	82-ZM1-227-310		LVR,TRIG
33	82-ZM1-305-210		SPR-E,TRIG 2
34	82-ZM1-225-210		GEAR,FR
35	82-ZM1-216-510		GEAR,REEL
36	82-ZM1-226-010		GEAR,REW
37	82-ZM1-338-110		BELT,FR 4
38	82-ZM1-348-110		FLY-WHL,L W
39	82-ZM1-349-110		FLY-WHL,R W
40	82-ZM1-354-010		BELT,SBU MAIN2 EPDM
41	87-009-352-010		CONN,9P PH H
42	87-045-347-010		MOT,SHU2L 70
43	82-ZM1-247-210		PULLEY,MOTOR
44	82-ZM1-223-010		GEAR,PLAY
45	82-ZM3-333-310		SLIP DISK ASSY 2
46	82-ZM3-616-010		RING MAGNET 4
47	82-ZM1-220-210		GEAR,IDLER
48	82-ZM1-322-010		SPR-T,FR 60
A	82-ZM1-283-310		S-SCREW,AZIMUTH
B	82-ZM1-315-010		S-SCREW GUIDE TAPE
C	80-ZM6-207-010		V+1.6-7
D	87-741-073-410		UT2+2.6-6 GLD
E	87-251-070-410		U+2.6-3
F	82-ZM3-334-010		PW 2.16-6-0.4
G	87-B10-008-010		W-P,2.08-8-0.4-SLIP
H	80-ZM6-243-010		SH 1.75-3.6-0.5 SLT

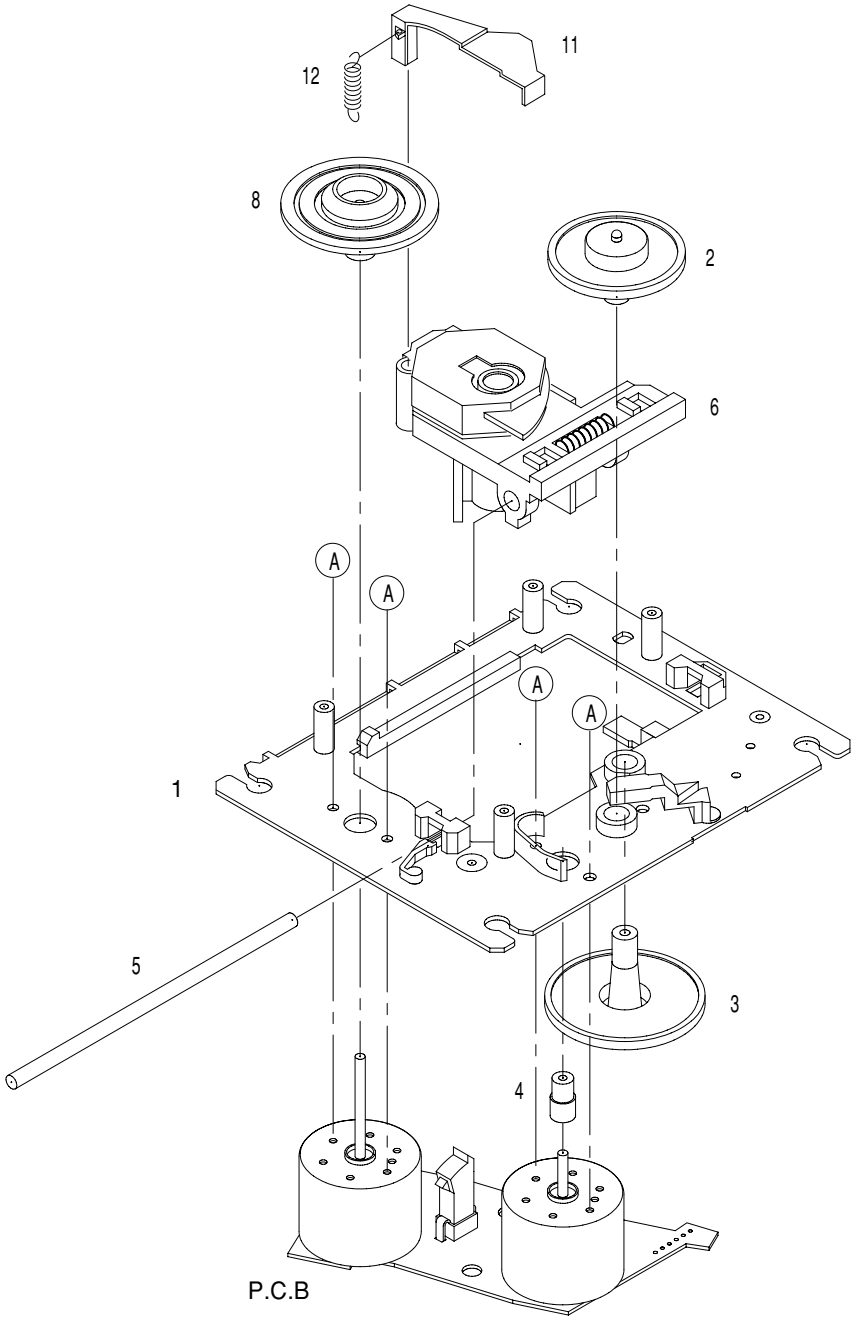
CD MECHANISM EXPLODED VIEW 1 / 2



CD MECHANISM PARTS LIST 1 / 2

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG3-224-310		HLDR,M2
2	83-ZG3-228-610		CHAS,L6
3	83-ZG3-208-010		PULLEY,MOTOR
4	83-ZG3-213-010		LVR,SW
5	83-ZG3-209-610		CAM,SLIDE
6	83-ZG3-207-010		GEAR,TRAY
7	83-ZG3-204-210		GEAR,C
8	83-ZG3-205-010		GEAR,D
9	83-ZG3-217-010		S-SCREW,GEAR D
10	83-ZG3-220-210		GEAR,PULLEY 2
11	83-ZG3-214-010		BELT,L
12	83-ZG3-229-410		TRAY,CD 2
13	83-ZG3-210-110		HLDR,CHUCK
14	83-ZG3-602-010		RING,MAG
15	83-ZG3-212-010		CAP,DISC
16	83-ZG3-211-010		PLATE,DISC
17	81-ZG1-254-010		S-SCEW,MECH HLDR
A	87-067-945-110		VFT2+3-12(F10)
B	87-251-071-110		U+2.6-4
C	87-512-074-210		VFT2+2.6-8
D	87-352-075-210		VT2+2.6-10

CD MECHANISM EXPLODED VIEW 2 / 2



CD MECHANISM PARTS LIST 2 / 2

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG2-243-210		CHAS ASSY,SHT
2	83-ZG2-235-010		GEAR,A3
3	83-ZG2-205-210		GEAR,B
4	83-ZG2-236-010		GEAR MOTOR 3
5	83-ZG2-253-010		SHAFT,SLIDE 5
6	87-A90-836-010		PICKUP,KSS-213F
8	83-ZG2-227-210		TURN TABLE,C1
11	83-ZG2-245-410		LEVER,SHUTTER
12	83-ZG2-250-110		SPR-E,SHT 2
A	87-261-032-210		SCREW V+2-3

アイワ株式会社 〒110-8710 東京都台東区池之端1-2-11 ☎03(3827)3111 (代表)
AIWA CO.,LTD. 2-11, IKENOHATA 1-CHOME, TAITO-KU, TOKYO 110, JAPAN TEL:03 (3827) 3111

9820572 0251431 9630472 Printed in Singapore